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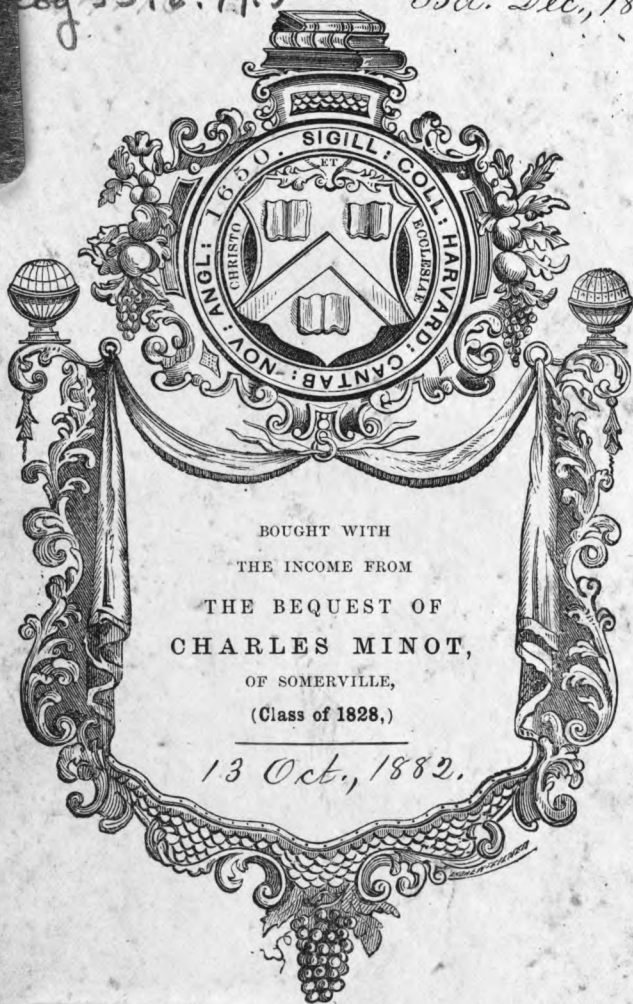


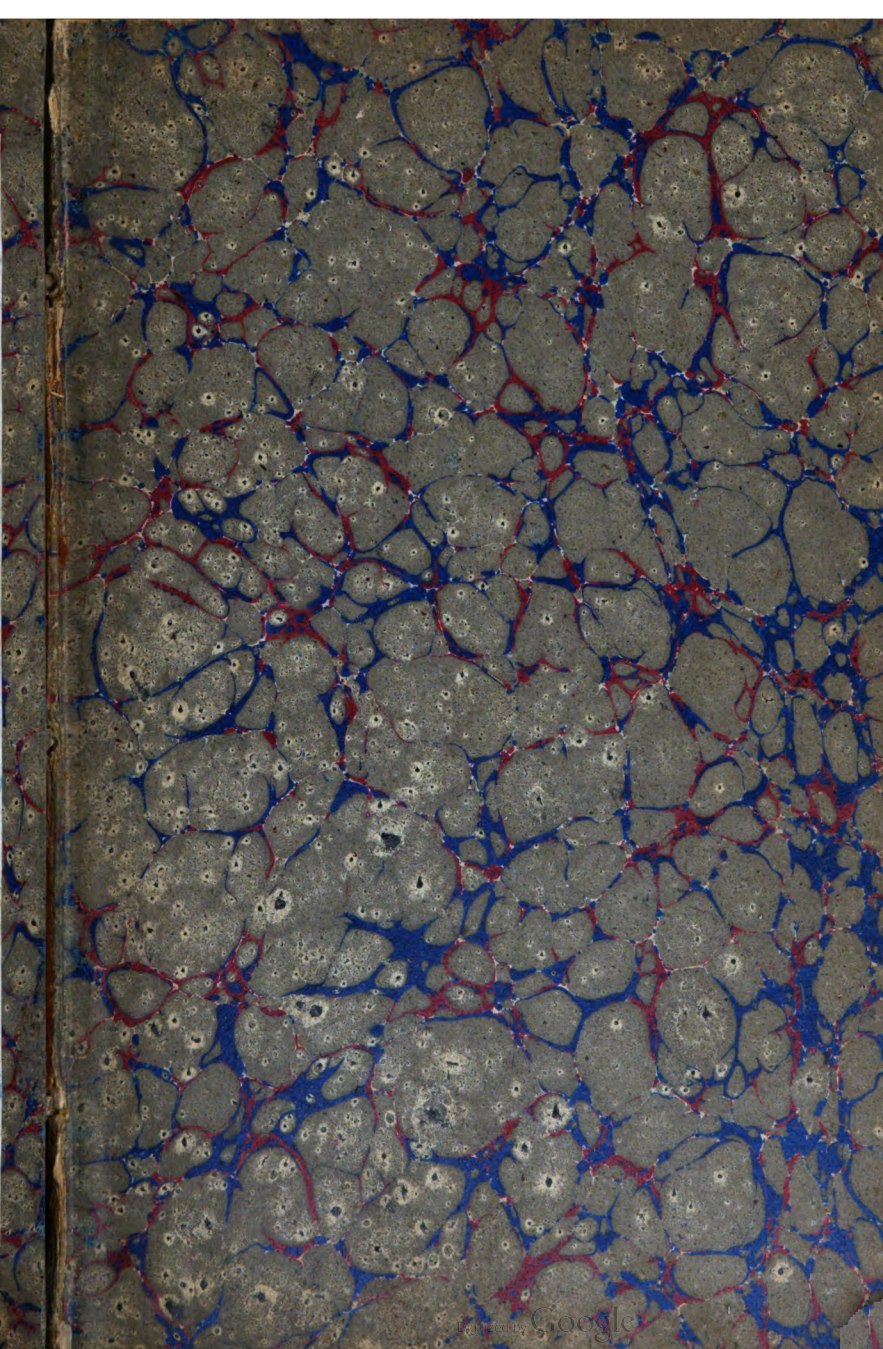
*Lieutenant Danenhower's
narrative of the "Jeannette" ...*

John Wilson Danenhower

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Bd. Dec., 1882.







Geo. W. Daneshower
Lieut. U.S.A.

o
John W.
LIEUTENANT, DANENHOWER'S
NARRATIVE

OF THE
"JEANNETTE"

ILLUSTRATED



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c
BOSTON
JAMES R. OSGOOD AND COMPANY
1882

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1882. Oct. 13

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UNIVERSITY PRESS:
JOHN WILSON AND SON, CAMBRIDGE.

INTRODUCTION.

NUMEROUS friends and acquaintances who did not see the *New York Herald* at the time my narrative was published, and are now unable to procure the back numbers of the paper, have requested me to have the story republished.

I have revised and corrected the narrative as dictated to Mr. John P. Jackson, special correspondent, at Irkoutsk in March last, and I now offer it to my friends and the public as preliminary to a book which I hope to write when my eyes will permit, in which my Arctic and Siberian experiences will be given with more detail. This pamphlet contains a brief and graphic synopsis of the cruise of the *Jeannette* and the retreat to the Lena Delta; also a chart, showing the drift of the *Jeannette* in the pack and the line of the retreat. This chart was made from material furnished by me. There is no correct chart of the Lena Delta in existence, and I have considered it best not to make another one with the incorrect and uncertain data that we have. After the return of the officers who are now in Siberia, a very good

chart will doubtless be made from the information they furnish.

I have purposely omitted any conclusive remarks about the finding of Captain De Long's party, because the subject will be fully written up in a short time by those who prosecuted the search.

There has been an unauthorized and hastily compiled "History of the Adventurous Voyage of the Jeannette, &c.," published by one De Witt of New York. It contains a mixture of my narrative and the official report of Chief Engineer George W. Melville, U. S. N., also some untruthful and very absurd illustrations.

I simply desire to have the true story told, and I am responsible for the statements in the following pages.

My picture is published with this account, because I have received so many requests from strangers for it, and for autographs.

JOHN W. DANENHOWER.

CAPON SPRINGS, July 21st, 1882.

CONTENTS.

PART I.

EXPERIENCE OF THE FIRST YEAR.

	PAGE
The Run to St. Lawrence Bay	1
In the Track of Nordenskiöld	3
Fast in the Ice	4
Attempt to reach Herald Island	5
Freaks of the Ice	7
Tidal Action — a Split in the Floe	8
The drifting Outhouse	8
Shock's stout Truss	9
In the Arctic Night. Life in the Ship	10
Vessel wrenched and leaking	11
At the Pumps	11
Damaged Provisions	12
Fifty Miles in Five Months	12
Petermann wrong	13
Findings on the Ice	13
Mr. Collins's Meteorology	13
Mr. Chipp's Auroral Observations	14
Summer Weather	15
Seal-Meat. Bear-hunting	15
Hunting Incidents	16
Theories on the Drift	18
If the Ship had held together	18
Ocean Depths and Bottom	19
No Evidence of a Current	19
Looking forward to the Second Winter	20

PART II.

EXPERIENCE OF THE SECOND YEAR UNTIL THE SHIP WAS CRUSHED

AT 4 A. M., JUNE 13, 1881.

	Page
In her Bed of flinty Ice	21
Once more in Winter Quarters	22
Watching the Drift — "Melville's Canal"	23
"Land ho!"	24
Extracts from the Log	25
Floe upon Floe	26
The Ice breaking	27
Henrietta Island	28
A Sledge Party off	28
Rising in her Bed	29
A Signal Smoke. The Party return	29
"In the Name of the United States"	30
The Ice in raging Confusion	30
The worst at Hand	31
The Jeannette afloat once more	32
A Hope soon to be blasted	32
The discovered Islands	33
The landing on Henrietta Island	34
Dunbar's Blindness and Grief	35
Naming the Highlands	35
Off the Ice Ways	36
What the Drift establishes	37
The Ice closing in again	38
The Jeannette's Death-Struggle	39
The last Meal on Board	40
Brave Edward Star	41
The Crew on the Ice	41
The Captain's last Good-by	42
Almost drowned	42
The Ship goes down	43
The Retreat begins	43

PART III.

THE RETREAT, AND EXPERIENCE BEFORE MEETING THE SIBERIAN NATIVES.

	Page
On the Ice	44
The Start Southward	46
The Order of March	47
A Mile a Day	48
Repairing Damages	50
Ferrying across the Fissures	51
Planting the Road-Flags	52
Land in Sight	53
Bennett Island	54
Sojourn on the Island	55
Leaving Bennett Island. — The Dogs	56
A Ten Days' Imprisonment — Thaddeus Island	58
The Boats	59
Among the New Siberian Islands	61
Shooting a Doe	63
Weary Travellers	64
Separated in the Gale	65
Getting out the Drag	66
Alone on the Water	68
The Steering	69
Off the Siberian Coast	70
Trying to land	71
On Land at last	72
Met by the Natives	74
The "Miraculous Medal"	75

PART IV.

EXPERIENCE AMONG THE TUNGUSES AND THE YAKOUTS. — CONVERSATION WITH HERALD SPECIAL CORRESPONDENT.

Cut-eared Vashiley	80
In a Tungus Village	81
Spiridon	82
A suffering Crew	83

	PAGE
Yapheme Kopelloff the Exile	84
Unfortunate Delay	84
Lodged in a House. — A sick Company	85
Getting stronger	86
A hospitable Russian. — News	86
My first Search	88
Noros and Nindemann.	91
Dealing with the Cossacks	92
Meeting with Melville	93
At Yakutsk	94
The Captain's Party	95

PART V.

ARRIVAL AT IRKOUTSK. — REWARDS TO NATIVES.

A Report to Governor-General	99
--	----

ILLUSTRATIONS.



PORTRAIT OF LIEUT. J. W. DANENHOWER	<i>Frontispiece</i>
THE JEANNETTE IN THE PACK	4
MAP SHOWING DRIFT OF THE JEANNETTE AND LINE OF CREW'S RETREAT	44

NARRATIVE OF THE JEANNETTE.



PART I.

EXPERIENCE OF THE FIRST YEAR.

THE RUN TO ST. LAWRENCE BAY.

THE Jeannette left San Francisco on the 8th of July, 1879, with a full outfit for three years, with five commissioned officers of the navy, two civil scientists, and twenty-four of the ship's company. We arrived at Ounalaska on the 3d of August, after a long passage caused by head winds and the vessel being laden below her proper bearings. The Jeannette was perfectly seaworthy, having been thoroughly put in order at Mare Island before starting. After coaling ship at Ounalaska we proceeded to St. Michael's, Alaska, to meet our supply-schooner, the Fanny A. Hyde. There we filled up with stores, got fur clothing, purchased forty dogs, and engaged two American Indians — Aneguin and Alexie — as hunters and dog-drivers, thus completing our complement of thirty-three. On the 25th of August we crossed Behring Sea in a very heavy gale, and though the ship was loaded very deeply she behaved admirably. We visited St. Lawrence Bay in order to take in coal and the remaining supplies from the schooner, as well as to converse with

the native Chuckches and to get news of Nordenskiöld. We met about twenty natives, one of whom had learned a little English from American traders, and he told us that a steamer had passed south the previous June. The natives were ragged and dirty and had no food to dispose of. We shot some wild fowl, and we saw remains of vessels burned by the Shenandoah. Up the St. Lawrence Bay we found magnificent scenery. The astronomical position of Lutke Island we found to correspond with that given by Admiral Rodgers, and his chart of the harbor proved very good. We sent off our last mail by the supply-schooner, and on the 27th of August, 7 P. M., we started north. Next day we passed through Behring Straits. We rounded East Cape about three of the afternoon of the 28th; was then cloudy, no observations, running by dead reckoning. The East Cape loomed very bold and bluff. We could not see the Diomedes in the Straits. On the 29th I saw, from the crow's-nest, huts on the beach. We stood in and found a summer settlement. Captain De Long and a party of officers started ashore in the whale-boat, but could not land, owing to the surf breaking on the icefoot. Seeing the difficulty, the natives launched a *bidarah*, or large skin boat, very skilfully, and came off to the ship, bringing their chief with them. We had a long interview with them in the cabin; but as neither party could understand the other, the results of the conversation were not great. They made us understand, however, by bending the elbow and saying "Schnapps" what they wanted, but the captain refused to listen to their request. Lieutenant Chipp then went ashore and succeeded in landing about midnight, and from an old woman from King's Island who could talk with our Indians, we learned that Nordenskiöld, with the Vega, had wintered to the northwest of them, and had passed east to Behring Straits in the month of June.

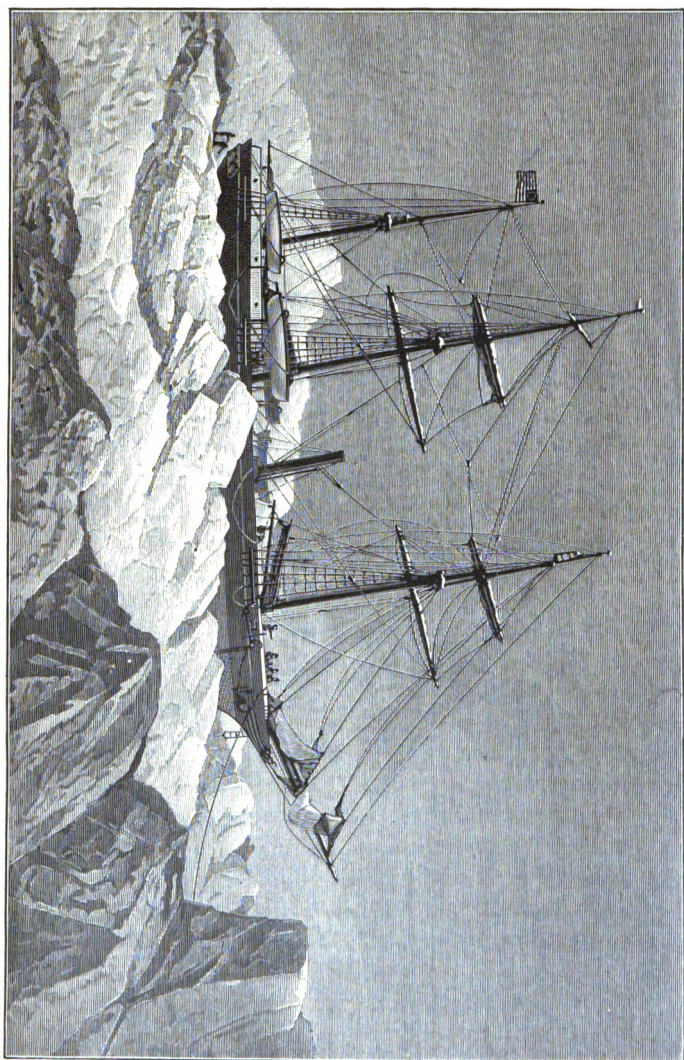
IN THE TRACK OF NORDENSKIÖLD.

We got observations on the afternoon of the 9th, and, working with an approximate latitude, it placed us near Cape Serdze Kamen, though this did not correspond with our dead reckoning. The next day we cruised along the coast to the westward. Met two other parties of natives, who came alongside, but took a look at us only. They are probably the ones who reported our decks as having been covered with dogs and coal. On Sunday, August 31st, we fell in with some drift ice, and at daylight discovered a few huts on the beach. The drift ice extended about four miles off shore. Lieut. Chipp, Ice Pilot Dunbar, and I went ashore in the whaleboat to interview the natives. After a two hours' pull through the drift ice, and seeing many seals, we reached the beach and found several carcasses of recently slain walrus. The natives seemed rather shy, and we had to look them up in their skin tents. There we found a whaler's try-pot and a cask marked "Centennial Brand of Whiskey," conclusive proof that the people were in occasional communication with American traders. We met there an intelligent young Chuckche, who offered to show us the spot where the Vega had wintered. We took a tramp of several hours to the westward and saw a bay about fifteen miles wide, between the headlands, and there the natives told us the Vega had passed the winter. We found nothing there of any consequence. In the tents, however, we found tin cans marked "Stockholm," scraps of paper with soundings marked in Swedish, and some interesting pictures of Stockholm professional beauties. The natives indicated to us by signs that the steamer had passed safely out to the east. They talked of "Horpish" as having been able to speak their own language — probably referring to Nordquist, who, I notice, is mentioned in Nordenskiöld's book. After purchasing

some of the pictures and tin cans we returned to the ship. During my absence the captain had got the sun at noon, and the latitude placed us about fifteen miles inland. Our astronomical positions were not reliable, owing to the state of the weather, but from them and the dead reckoning we felt assured that the coast is not correctly charted. The general appearance of the coast was fresh and pleasing. Off what we supposed to be Cape Serdze Kamen we saw a large heart-shaped rock, of which Mr. Collins made an elaborate sketch. There were several "sugar-loaf" mountains in sight. Our walk to the Vega's winter quarters was over a mossy tundra; no signs of deer; the vegetation withered. The natives were hospitable, and one old Chuckche dame pressed us to eat a dish of walrus blood, but we felt compelled to refuse the offer. The natives were stalwart and handsome; they lived in skin tents and were exceedingly dirty. They were well clad, and the chief wore a red calico gown as the distinguishing mark of his dignity. This was the last time most of us touched land for a period of more than two years.

FAST IN THE ICE.

About 4 P. M., August 31st, we stood to the north-west, shaping our course to the south-east cape of Wrangell Land, and then we felt that our Arctic cruise had actually commenced. We met considerable drift ice, the weather was stormy and misty. About sunrise of the first of September we discerned an island which was taken to be Kolintchin, in Kolintchin Bay. Next day we met pack ice in flocs of moderate size, turned to the northward and north-eastward, and cruised along the Siberian pack, entering leads at times to examine them. On the forenoon of the 4th of September a whaling barque bore down to us; we stopped engines and awaited her approach, but the weather became misty and she did not speak us. We had



THE JEANNETTE IN THE PACK.

an Arctic mail on board at the time, and were disappointed at not being able to send letters home. We ran in several times and made fast to floe pieces to await clear weather. That afternoon, about four, we saw an immense tree with its roots drifting by. Ice Pilot Dunbar, seeing it, said that in 1865, when the *Shenandoah* destroyed the whalers, he was at St. Lawrence Bay, and when, a few months later, he landed on Herald Island, he was greatly surprised to see masts and portions of the destroyed vessels drifting in that vicinity. This made me look out for a north-west drift. Then Herald Island loomed up in the clouds. On the 6th of September the captain judged that we had reached the lead between the Siberian and North American packs, and that this was a good place to enter. He took charge from the crow's nest and we entered the pack. We met with the young ice, and through this forced our way by ramming. This shook the ship very badly, but did not do her any damage; indeed, the ship stood the concussions handsomely. But at 4 P. M. we could proceed no further. We banked fires, secured the vessel with ice anchors and remained. That night was exceedingly cold. The ship was frozen in. At this time the ice was in pieces, ranging from ten square yards to several acres in area, with small watercourses like veins running between them, but now quite frozen over. It remained quiet for a number of days, and we found ourselves in the middle of a large accumulation of floes about four miles across. We were then in about twenty fathoms of water, and had Herald Island in sight to the southward and westward, twenty-one miles distant by triangulation on a base line of one thousand one hundred yards.

ATTEMPT TO REACH HERALD ISLAND.

About the 15th of September Lieutenant Chipp, Ice Pilot Dunbar, Engineer Melville, and the Indian Alexie,

started with a dog-sledge for Herald Island. They got within six miles of the beach, when they found open water before them and were compelled to return. We found the ship drifting with the ice, and with so uncertain a base the captain would not send other persons to the island with boats. The general appearance of the ice at this time was uniform, with here and there almost snowless hummocks appearing above the surface, and between which were pools whereon the men could skate. The deflorescence of salt was like velvet under the feet. From day to day we saw a looming of land to the south-west and sometimes in the clouds. We soon found that the ice always took up the drift with the wind. The ship at this time began to heel to starboard under the pressures and inclined about twelve degrees. We unshipped the rudder, got up masthead tackles on the port side, with lower blocks hooked to heavy ice anchors, about a hundred and fifty feet distant, and set them taut in order to keep the ship upright. The propeller was not triced up, but was turned so that the blades would be up and down the stern-post; the engines were tallowed, but not taken apart. When the ship commenced to heel, the local deviation of the compass increased in the ratio of one and a half degrees deviation to one degree of list. This was owing to the vast amount of iron work, and especially the canned goods, which had to be stowed in the after hold and on the quarter deck. All our compass observations had, of course, to be made on the ice well clear of the ship. At this time and later on we noticed that the turning motion of the floe or change in azimuth of the ship's head was very slow; but the floe did have a cycloidal motion with the wind, and the resultant was in the north-west direction. Our position was not an enviable one. At any moment the vessel was liable to be crushed like an eggshell among this enormous mass of ice, the general thickness of which

was from five to six feet, though some was over twenty where the floe pieces had overrun and cemented together and turned topsy-turvy. Pressures were constantly felt. We heard distant thundering of the heavy masses, which threw up high ridges of young ice that looked like immense pieces of crushed sugar.

FREAKS OF THE ICE.

The month of October was quiet. We had had no equinoctial gales even in September. The cold was very bitter. Wrangell Land was in plain sight to south and west many times, and especially on the 28th and 29th of October, when we could see mountains and a glacier, which we identified on many occasions. Collins took sketches of them. The ship was drifting to and fro with the wind. Up to this time we saw a considerable number of seals and walrus and got two bears. Two white whales were also seen, which were the only ones noticed during the whole cruise. Life on board was quiet but monotonous. We got many observations, especially from the stars. The nights were very clear and suitable for artificial horizon work. We began to find at this time, and by later experience became convinced, that Rear Admiral John Rodgers was right when he said that the sextant, artificial horizon and the lead were the most efficient and useful instruments in exploring Arctic waters, and that transits and zenith telescopes were not useful, because refined observations could not be obtained and were not necessary in this region. The cold is so great as to affect the instrument, and it is almost impossible to keep the lens free of frost and vapor, thus making the refraction a very indefinite correction. Our experience in this pack was that the state of the atmosphere was constantly changing. Without a moment's notice the ice would sometimes open near the ship, and vast columns of vapor would rise whenever

the difference of temperature between the air and water was great.

The surface water was generally 29 degrees Fahrenheit, the freezing point of salt water.

TIDAL ACTION — A SPLIT IN THE FLOE.

About the 6th of November the ice began to break up. We had previously observed considerable agitation about the full and change of the moon and attributed it to tidal action. This was observed particularly when we were between Herald Island and Wrangell Land, and when the water was shoaled — that is, about fifteen fathoms — the ice began to break round the ship, and a regular stream of broken masses gradually encroached upon us. From aloft, the floe that had appeared so uniform a few weeks before was now tumbled about, and in a state of greater confusion than an old Turkish graveyard. Tracks began to radiate from the ship, and the noise and vibration of distant ramming were terrific, making even the dogs whine. November 23d was a calm, starlight night. I got good star observations, with Melville marking time, at 11 P. M. I was working them up when a crack was heard, and we found that the floe had split and that the ice on the port side had drifted off, leaving the ship lying in a half cradle on her starboard bilge. The water looked smooth and beautiful, and there was no noise save that of four dogs which had drifted off with the port ice. We had previously taken in the observatory and had prepared for such an accident, but on the starboard side the steam cutter and the men's outhouse had been left. We got the steam cutter aboard but left the outhouse standing. This was November 23rd.

THE DRIFTING OUTHOUSE.

And here let me mention an interesting fact. About sixteen months afterward the Indian Aneguin came in, in a

state of great excitement for an Indian generally so stolid, and reported, "Me found two-man house!" He described it as a house large enough for two men, and when asked if he had been inside, said, "No, me plenty 'fraid!" Judge of our surprise. Lieutenant Chipp immediately started with the Indian and others and found the house at the distance of about three miles to the southeast. It proved to be the lost outhouse, thus showing that the relative positions of the pieces in the vicinity were comparatively unchanged.

SHOCK'S STOUT TRUSS.

The next morning the half cradle on which the port side had rested could be seen about a thousand yards distant, and this immense lead was open, but of very limited length. The appearance of the ice can be likened to an immense cake as it comes from the oven, broken and cracked on the surface. A few mornings later the drift ice came down upon us under the starboard bow and wedged the ship off her cradle, and she went adrift in the gale. This was about 8 A. M. She drifted all day until 7 P. M., when she brought up in some young ice, and was frozen in solid again. It was dark, in the long night, and there was no chance of working the pack had it been good judgment to do so. We reckoned that she had drifted at least forty miles with the ice in her immediate vicinity. Previous to this time the ship had stood the pressure in the most remarkable manner. On one occasion I stood on the deckhouse above a sharp tongue of ice that pressed the port side just abaft the fore chains and in the wake of the immense truss that had been strengthened by the urgent advice of Engineer-in-Chief William H. Shock, at Mare Island. The fate of the "Jeannette" was then delicately balanced, and when I saw the immense tongue break and harmlessly underrun the ship I gave heartfelt

thanks to Shock's good judgment. She would groan from stem to stern; the cabin doors were often jammed so that we could not get out in case of emergency, and the heavy truss was imbedded three-quarters of an inch into the ceiling. The safety of the ship at that time was due entirely to the truss. The deck planking would start from the beams, showing the unpainted wood for more than half an inch. This, together with the sharp cracking of the ship's fastenings, like the report of a discharge of rifles, would wake us at night. Each man kept his knapsack by him ready for an instant move, and preparations were made for leaving the ship with sleds and boats if necessary.

IN THE ARCTIC NIGHT. LIFE IN THE SHIP.

Several gales, the heaviest being about fifty miles an hour, occurred in the fall of 1879. The long night commenced about the 10th of November, and lasted till the 25th of January, 1880. On November 1st the winter routine commenced. At seven, call all hands and start fires in the galleys; at nine, breakfast; from eleven to one guns given to all hands to hunt, and for exercise on the ice; at three P. M. dinner, then galley fires put out to save coal; between seven and eight, tea, made from the Baxter boiler, which was used constantly to condense water, we having found that the floe ice was too salt for use, and the doctor insisted on using condensed water. This boiler was originally intended for the electric light, but it was found that we could not afford to run the light, so we used the coal in condensing water. Twenty-five pounds of coal per day was allowed for heating the cabin, twenty-five pounds for the forecastle, and ninety pounds for ship's galley for cooking purposes. We lived on canned goods, with bear and seal twice a week, pork and beans and salt beef once a week; no rum or spirits except on

festive occasions two or three times a year. The discipline of the ship was excellent, and during the whole twenty-one months in the pack there was but one punishment given, and that was for profanity. The crew were well quartered in berths and were comparatively happy; had navigation class and theatricals. The health of all was excellent, and there was a special medical examination the first of every month.

VESSEL WRENCHED AND LEAKING.

Things went on in this fashion until the middle of January, when there were tremendous pressures, and the floes actually doubled up into mounds under the strain, the ice being very tough and elastic. The heaviest strain came in the stem of the ship, in a longitudinal direction. There was also a heavy lateral strain, especially under the starboard main chains. About nine o'clock one morning a man went down into the fire-room on duty, and found the foreplates covered with water; he immediately reported the fact and all pumps were started. The temperature was below — 42 degrees Fahrenheit (the freezing-point of mercury). Mr. Melville had great difficulty in getting up steam and starting the donkey-pumps, but succeeded admirably, the men working with their feet and legs in ice water and everything frozen and freezing solid. It was found that the vessel leaked badly in the bows, and we supposed that the hooding of the planks had been started at the stem, and it was not until the last day, June 12th, 1881, that we discovered that the forefoot had been twisted to starboard.

AT THE PUMPS.

The carpenter, Sweetman, with Ninderman, worked day and night, and, under the direction of Lieutenant Chipp, built a bulkhead forward of the foremast, which

partially confined the water. Melville rigged an economical pump with the Baxter boiler, and the ship was pumped for nearly eighteen months. A windmill pump was also made for summer, but the winds were so light that it hardly paid. During the last few months the leak decreased, owing to the ship floating higher, and we had then only to pump once every half-hour by hand. The experience of January 19th gave me great confidence in the ship's company, as it was a very severe test on the men. I was confined to my berth at the time, but knew everything that was going on, and the solid and effective work done was very gratifying.

DAMAGED PROVISIONS.

As well as I can remember, about fifteen barrels of flour and some other dry provisions were damaged by this accident. Previous to this we had to throw away a large quantity of canned roast beef marked "Erie Brand," it having proved bad. The coldest weather occurred in February, 1880, being — 58 degrees. There were also some great and remarkable changes of temperature in the course of the day.

FIFTY MILES IN FIVE MONTHS.

About the middle of February we were found to be about fifty miles from the place where we had entered, and Herald Island was said to have been in sight during one day. During these five months we had drifted over an immense area, approaching and receding from the 180th meridian, but I do not think we crossed it at that time. We continued to drift in this uncertain manner. We noticed that the ship always took up a rapid drift with south-east winds, and a slow drift with north-east winds, owing, doubtless, to Wrangell Island being under our lee. South-west winds were not frequent.

PETERMANN WRONG.

At times land was reported to the north-east, but nothing trustworthy. Some observers were constantly seeing land at all points of the compass, and many was the trip that the navigator and the ice pilot had to make to the crow's nest in vain. We were very much disappointed at not being able to shift for ourselves, and up to this time we had only demonstrated to our satisfaction that Dr. Petermann's theory in regard to Wrangell Land being a portion of Greenland was no longer tenable, for its insularity was evident, as subsequently proved.

FINDS ON THE ICE.

March and April, 1880, were passed quietly, and we were surprised at not having any March gales. The geese and wild fowl that some of us expected to see on their spring migration did not put in an appearance. One poor eider duck fell exhausted near the ship, and one of our sportsmen shot at it, and after administering chloroform it succumbed. There were some birds seen later in the season moving to the westward, but they were not numerous. A great many mussel shells and quantities of mud were often found on the ice, which indicated that it had been in contact with land or shoals. Our hunters ranged far and wide, and often brought in small pieces of wood — on one occasion a codfish head, and on another some stuff that was very much like whale blubber, all of which had been found on the ice.

MR. COLLINS'S METEOROLOGY.

On May 3d fresh south-east winds began and the ship took up a rapid and uniform drift to the north-west. Now Mr. Collins began to predict, and told me several times that these winds would continue till the early part or the

middle of June, and would be followed by constant north-west winds for the balance of June. This prediction was fully realized, and in the month of June we actually drifted back over the May track. During July and August there was scarcely any wind, and the weather was misty and raw, it being the most unpleasant time of the year, the coldest weather not excepted. The damp and fog and cold struck chill to the bones, and we could not afford to heat the ship as we did in winter. The ice seemed to absorb all the heat from the sun during the melting period of the year. The snow disappeared from the surface of the floe about the middle of June, and the best travelling period over the floe was considered to be between the middle of June and the middle of July. But this was a subject for constant discussion among the *savants*, among whom Mr. Dunbar was the most experienced, he having been an old traveller in the Baffin's Bay region. A considerable number of birds, principally phalaropes and guillemots, were shot and very much appreciated at dinner. On the subject of natural history, however, Mr. Newcomb can tell you more than I. The surface of the floe pieces was now of a hard greenish blue and flinty, being covered in many places with thaw water. There were numerous cracks near the ship, but no leads that went in any definite direction, and there was no chance to move, for the ship was imbedded in the ice so firmly that a whole cargo of explosives would have been useless. Lieutenant Chipp, an experienced torpedo operator, made torpedoes and all the arrangements for taking advantage of the first opportunity to free the ship. But the opportunity never came.

MR CHIPP'S AURORAL OBSERVATIONS.

Mr. Chipp was an accomplished electrician, and during the whole time in the ice he took up the subject recommended by the Smithsonian Institution to the *Polaris*.

Expedition — namely, observations of the disturbances of the galvanometer during auroras. He had wires laid out over the ice, and “earth”-plates in the water, and the galvanometer in the circuit, and obtained over two thousand observations during auroras, which he intended to turn over to a specialist for purposes of analysis and judgment. He always found disturbances of the needle coincident with the most brilliant auroras. He also ran the telephones, which, however, gave a great deal of trouble, owing to the wires being broken by the wind and the ice movements. Those on the ship of course were all right. During my sickness he also made observations of the eclipses of Jupiter’s satellites, and got some excellent results for chronometer errors by using an improved ship’s telescope mounted on a barrel. He afterward used the transit telescope similarly mounted. This was the best data for our chronometers, being far superior to lunar observations.

SUMMER WEATHER.

The summer weather was very bright and pleasant for about fifteen days in July, and when the thermometer was above 40 degrees Fahrenheit we called it a warm day: but the latter part of July and August was particularly bad, being foggy and raw.

SEAL MEAT. BEAR HUNTING.

During the first year we got sufficient game for table use, and seal skins for clothing for the men; but this necessitated a great deal of hunting, and there was a great scarcity of game in this region. On many occasions I heard the statements in “The Threshold of the Unknown Regions” criticised. In it the author says that “this part of the ocean is teeming with animal life” and that “navigable polynias are numerous.” The seal most frequently

obtained was the species called by Lamonte the "floe rat," and averages about sixty pounds in weight and thirty to forty pounds when dressed. The men generally made up the skins into boots and trousers. The meat was not pleasant to the taste, and it required the strongest philosophy to enable one to eat it at all. It is a strange fact that fossil remains of seal of this species have been found in the hills of Scotland. So says Lamonte. Walrus was scarce, the depth of water being a little too great for them, as they seldom inhabit depths of more than fifteen fathoms. We got six, however, which furnished excellent food for the dogs, and our Chinese cook was an adept in making walrus sausage for our *cuisine*. Bear chases were frequent and exciting, and about fifteen animals were obtained the first year. Mr. Dunbar was the champion bear-slayer, and was always ready for a keen jump when game was reported. During the first winter a tremendous bear approached the ship about midnight, drove the dogs in, and attempted to board us over the port gang-plank. The alarm was given. Mr. Dunbar was on deck instantly, with rifle in hand, and shot the bear through the heart at ten paces. It was probably the biggest and most ferocious bear secured on the cruise, and he had been attracted by the quarters of his comrade that were triced up in the fore rigging. A few foxes were seen, and their tracks quite frequently observed. They seemed to either accompany or follow the bears, like pilot fish with the sharks, and jackals with their ferocious and stronger friends.

HUNTING INCIDENTS.

During the summer some of us used to take the skin boats or the dingy, and paddle among the cracks. On one occasion Captain De Long was alone in the dingy and was interviewed by a bear, who suddenly approached out of

the mist and stood watching him in the most dignified manner. The captain retreated in good order. During the summer it was very difficult to get bears, because they could take to the water so readily and thus cut off their pursuers. During the misty times they were very bold, and on one occasion a she bear with two cubs approached the ship to within four hundred yards of the starboard quarter. Fortunately the dogs were on the port side and to windward, so they did not scent the bear. The greatest quietness prevailed, and a squad of about ten riflemen was immediately organized on the poop. I was watching the bears through a cabin air-port, and it was a very fine sight to see the mother and her two cubs approach the ship in a wondering and cautious manner. I could see better under the mist than the people on the poop. I heard the captain say : —

“Do any of you think it is over two hundred and fifty yards?”

All seemed to agree, and he said : —

“Aim at two hundred and fifty yards and wait for the word ‘fire!’”

Then succeeded a volley. The bears reeled and made several turns, and I thought that we had bagged all of them, but was astonished to see them get up and walk off in the most lively manner. Of course, all the dogs took the alarm and pursued them to the first crack, which the bears calmly swam across and thus escaped. But large drops of blood were seen, and the she-bear lay down once or twice as if wounded. In making her retreat she drove her cubs before her, and became impatient when they moved slowly. The bears had been hit, but the distance had been underestimated, and most of the shots had fallen short. This was not extraordinary, because it was very misty.

THEORIES ON THE DRIFT.

After this one year of experience in the ice we concluded that the general motion of the ice was due principally to the wind, and that the resultant of the winds was from the southeast. Some of us talked about the polar region being covered with an immense "ice cap," which seemed to have a slow, general movement in the direction of the hands of a watch; the direction of the drift, of course, being different in the different segments. The influence of Wrangell Island would be to impede the drift of the segment lying to the northward and eastward, and I imagined that there must be a constant strife between Wrangell Land and the solid phalanx of ice from the northeast. This polar ice cap we know throws off in its revolutions millions of acres every year through the gates of Robeson's Channel and between Iceland and Greenland. A branch of the Gulf Stream attacks it from the Spitzbergen side, and its influence is felt as far as the North Cape of Asia. The general motion of this "cap" must be very slow, but the local motions, of course, depend upon the depth of the ocean and the vicinity of land, and near nature's outlets it is very rapid.

IF THE SHIP HAD HELD TOGETHER.

Melville gave me lots of food for reflection. He analyzed all data obtainable from the Hydrographic Office reports and Arctic literature, and marked on the circum-polar chart with arrows the currents as reported by various navigators, as well as those mentioned in the theories of distinguished geographers. We constantly discussed the question, and both felt assured that if the ship could remain intact long enough she would eventually drift out between Spitzbergen and Bear Island to Atlantic waters. A very high latitude would doubtless be attained, and

would depend in a great measure on the influence of Franz Josef's Land upon the motion of the pack. If the ship passed to the southeast of it, the local motion to the southwest might be very rapid by the pack impinging on those lands, and if passing to the northward, the pack would be deflected toward the Pole and a very high latitude would be attained, supposing no polar continental land to exist. It is my opinion that, had we entered the pack two hundred miles to the eastward of where we did, we could have worked up near Prince Patrick Land, for Collinson found the deepest water over there to the eastward, and sounded with one hundred and thirty-three fathoms without finding bottom.

OCEAN DEPTHS AND BOTTOM.

Our smallest depth the first year's drift was seventeen fathoms and the greatest depth not over forty-six, the average being generally thirty, and the ocean bottom usually uniform, with blue mud and in some cases shale, something like round pieces of potato cut thin and fried, and supposed to be meteoric specimens. We felt pretty sure that we would continue to drift to the northwest during the following year, but I was not sure what influence the peculiar coast line in the vicinity of the North Cape would exert, it being in the form of an elbow, and must therefore have great influence on the general motion of the pack.

NO EVIDENCE OF A CURRENT.

From the fact that the spars of the Shenandoah's devastations drifted to Herald Island, and that the whaling barque Gratitude had been last seen drifting to the northwest in that vicinity, we augured that there must also be some northwest current; but we have no other evidence of a current except the formation of banks and shoals in the vicinity of Herald Island, which may be similar to the

formation of the Grand Banks, by the ice bringing earthy matter there. The locality east-northeast of Wrangell Land may be regarded as the Arctic doldrums, as far as drift is concerned. We also considered the possibility of drifting down the western side of Wrangell Land, and then again, perhaps, once more being able to shift for ourselves.

LOOKING FORWARD TO THE SECOND WINTER.

The general health of the ship's company was excellent, and we looked forward coolly, but not without some anxiety, to the long night of the second winter, during which time we might at any instant be rendered homeless and at the mercy of the Arctic fiends.

PART II.

EXPERIENCE OF THE SECOND YEAR UNTIL THE SHIP WAS CRUSHED AT 4 A. M., JUNE 13TH, 1881.

IN HER BED OF FLINTY ICE.

IT will be well here to describe the situation of the ship and our prospects at the beginning of September, as they appeared to us for the approaching winter. The ship was firmly imbedded in ice of about eight feet in thickness; but there were immense masses shoved under her keel, and the bows were lifted so that the keel was inclined about one degree, the ship at the same time heeling to starboard two degrees, and so firmly held in this gigantic vice, that when the blacksmith struck his anvil in the fireroom, one could see the shrouds and stays vibrate, and they were not very taut. Our executive officer had slackened up the rigging during the first winter, and the contraction of wire rigging by the intense cold was of course very great. The ice was piled up under the main chains, and as high as the plank-sheer. In the vicinity of the ship it was tumbled about in the greatest confusion, and travelling over it was almost an impossibility. In the latter part of September, when the cracks froze over, came the best time for travel, but the outlook was poor. There was comparatively little snow, and what there was was constantly blown by the wind and rendered salt by attrition on the surface of the ice, so that we could not

use it for culinary purposes. The captain was very favorable to fall travelling, and he several times expressed himself to the effect that he would not abandon the ship while there was a pound of provisions left, and we generally understood that he would hold on a year longer, and probably start when the fall travelling commenced, a year later. We all considered that if our provisions held out long enough; if we were not attacked by scurvy, and if the ship were not crushed by the ice, we should eventually drift out after reaching the vicinity of Franz Josef Land, either north or south of it. The morale of the ship's company was excellent, yet we looked anxiously toward the long night of the second winter, which proved to be the most fearful part of our experience. The anxiety and mental strain on many of us were the greatest at that time. We were so completely at the mercy of the ice, the vessel might be crushed at any moment by the thundering agencies that we constantly heard.

ONCE MORE IN WINTER QUARTERS.

In the month of September the ship was put in winter quarters for the second time. She was banked up with snow, the deck-house was put up for the use of the men, and the awning spread so that the spar deck was completely housed over. Economy and retrenchment were the order of the day in fuel, provisions, and clothing. The old winter routine of meals, two hours' exercise, and so on, commenced on November 1st, and all was going well. November and December were extremely cold, but we had no severe gales that I remember. The meteorological observations were taken every hour during the first year, but every two hours only during the second. They were very thorough, and Mr. Collins was very watchful to add something to the science to which he was so thoroughly

devoted. During my sickness the captain and Mr. Chipp took the astronomical observation, but each officer in the ship had a round of duty as weather observer and to assist Mr. Collins. There was a quartermaster on watch all the time, and steam was kept on the Baxter boiler for distilling purposes. To save coal, fires were put out in the galley at 3 P. M., being used only from 7 A. M. till that hour. The month of January was remarkable for its changeable temperature, and as being warmer than the two previous months.

WATCHING THE DRIFT — "MELVILLE'S CANAL."

About the middle of the month the wind set in from the southeast, and subsequently to that time the drift of the ship was uniformly to the northwest. The depth of the water began to increase toward the northwest, but would always decrease toward southeast or the southwest, as well as to the northeast. The vessel seemed to drift in a groove, which we called Melville's Canal, as he was the first to call attention to the fact. Mr. Chipp took the soundings every morning, and by long experience we could judge of the drift so accurately that his dead reckoning generally tallied with the observations. He adopted a scale by which 'slow' drift meant three nautical miles per day; 'moderate,' six miles; 'rapid,' nine miles; 'very rapid,' twelve miles. He always reckoned the direction and speed of the drift and placed the ship before making the observation. His judgment was excellent. He and the captain made frequent lunar observations for chronometer errors, but those of the eclipses of Jupiter's satellites were the best. February was the coldest month; and the mean for the three months was only six degrees lower than that for the same months during the previous year. The soundings generally ran thirty-three fathoms, but one morning Mr. Dun-

bar sounded in forty-four: some called that place Dunbar Hole. We drifted over this spot once again at a later period. The absence of animal life prior to May was greater than during the previous year. All hands hunted every day, especially as the doctor wanted fresh meat for the Indian Alexie, who was said to have the scurvy and suffered very greatly from abscesses on his leg. On May 1st, Dr. Ambler reported the physical condition of the crew rapidly deteriorating, and six or seven were placed on whiskey and quinine to tone them up. The weather at this time was good, and there were no spring gales. Of course, when I say "good," it is in an Arctic sense.

"LAND HO!"

During the month of May old man Dunbar was always in the crow's nest, and got blind several times. The old gentleman was looking out sharp for land, and about the 16th of May he was the first to announce it in sight. You can imagine the excitement it caused, for we had not seen land for many months, and had not set foot upon it for nearly two years.

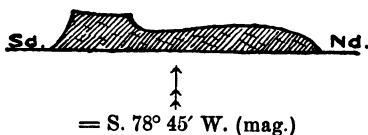
I therefore break off my narrative for a while in order to give some extracts from the log-book of the Jeannette, kept daily by Captain De Long during my sickness. Captain De Long made his entries always with two dates—that is, he did not advance one day on crossing the 180th meridian to east longitude, because he expected to drift back again to west longitude, as they had often done before. He always clung to the idea that he would experience a northeast drift sooner or later and recross that meridian. I therefore give the proper date for the geographical position. I also add from the log not only the official record of the discovery of these islands, but continue it to the last page, on which an entry was made by Captain De Long in lead pencil:—

EXTRACTS FROM THE LOG.

Log of the United States Arctic steamer Jeannette, beset and drifting in the pack ice about five hundred miles northwest of Herald Island, Arctic Ocean: —

Tuesday, May 17th, 1881. — Latitude by observation at noon, N. $76^{\circ} 43' 20''$; longitude by chronometer from afternoon observations, E. $161^{\circ} 53' 45''$; sounded in forty-three fathoms; muddy bottom; a slight drift northwest being indicated by the lead line; weather dull and gloomy in the forenoon; close, bright, and pleasant in the afternoon. At seven P. M. land was sighted from aloft by William Dunbar, ice pilot, and bearing S. $78^{\circ} 45'$ west (magnetic) or N. $83^{\circ} 15'$ W. (true). It appears to be an island, and such portion of it as is visible is of this shape: —

JEANNETTE ISLAND, AS FIRST SEEN.



But owing to fog hanging partly over it, and partly to the northward of it, no certainty is felt that this is all of it. It is also visible from the deck, but no estimate can be made of its distance.

As no such land is laid down upon any chart in our possession, belief that we have made a discovery is permissible.

This is the first land of any kind seen by the ship since March 24th, 1880, at which date we saw for the last time the north side of "Wrangell Land."

Wednesday, May 18th, 1881. — Latitude, N. $76^{\circ} 43' 38''$; longitude, E. $161^{\circ} 42' 30''$.

The land sighted yesterday remains visible all day, but with greater clearness. We are now able to determine its shape with greater exactness, and it is as below roughly sketched : —

JEANNETTE ISLAND, SEEN NEARER.



↑
↑
= S. 78° 45' W. (mag.)

The clouds of yesterday, or fog-bank as then called, having disappeared from the upper part of the island, we are able to see apparently rocky cliffs with a snow-covered slope extending back to the westward from them, and terminating in a conical mass like a volcano top.

Thursday, May 19th, 1881. — Latitude, 76° 44' 50" N. longitude, 161° 30' 45" E.

FLOE UPON FLOE.

Crew engaged in digging down through the ice on the port side of the stem in an effort to reach the forefoot. The ice was first bored to a depth of ten feet two inches without getting to the bottom of it; next a hole was dug four feet in depth, and from the bottom of this hole a drilling was made to a depth of ten feet two inches; still not reaching the bottom of the ice at fourteen feet two inches; but water now came oozing in to fill up the space dug, and further effort was not made. It is fair to assume that the thickness is of more than one floe, and that the water flows in between the blocks as they lie one above the other.

An opening occurred in the ice about five hundred yards

to the eastward of the ship, and partially closed at 10 P. M., the ship receiving several slight shocks as the edges of the ice came together.

The island remains in plain view all day, and at times, after 6 P. M., a very strong appearance of higher land beyond and to the westward is seen, seemingly connected by a snowy slope with what we have called an island.

Friday, May 20th. — The island remains in plain view all day, though nothing can be seen of the high land beyond, the strong appearance of which is noted in yesterday's log.

The centre of the island now bears west (true), but as no observations could be obtained to-day its position and distance cannot be determined by the change of bearing.

Saturday, May 21st. — Latitude, N. $76^{\circ} 52' 22''$; longitude E. $161^{\circ} 7' 45''$. The point of the island, which on the 16th inst. bore N. $83^{\circ} 15' W.$ (true) to-day bears S. $78^{\circ} 30' W.$ (true), from which change of bearing it is computed that the island is now twenty-four and three-fifths miles distant. The position of the observed point is therefore, latitude, $76^{\circ} 47' 28'' N.$; longitude, E. $59^{\circ} 20' 45''$.

From measurement made by a sextant it is found that the island, as seen to-day, subtends an angle of $2^{\circ} 10'$.

May 21st to 23d. — No mention of the island made.

THE ICE BREAKING.

Wednesday, May 25th. — Latitude, N. $77^{\circ} 16' 3''$, longitude, E. $159^{\circ} 33' 30''$.

At 8 A. M. the ice was found to have opened in numerous long lanes, some connected and some single, extending generally in north-northwest and south-southeast direction. By making occasional portages, boats were able to go several miles from the vessel, but for the ship herself there were no ice openings of sufficient magnitude.

HENRIETTA ISLAND.

The strong appearance of land mentioned on the 19th inst. proves to have been land in fact, and for reasons similar to those herein set forth in the remarks of the 17th inst. it may be recorded as another discovery. The second land is an island of which the position and present distance are yet to be determined. The following bearings were taken : —

Ship's head, S. 14° W. (true).

Eastern end of island first seen on 17th, S. 17° W. (true).

Nearest end of island seen to-day, S. $69^{\circ} 30'$ W. (true).

The following sextant angles were taken from the crow's nest : —

Island first seen subtends an angle of $2^{\circ} 42'$.

Island first seen has an altitude of $0^{\circ} 16'$.

Island seen to-day subtends an angle of $3^{\circ} 35'$.

Island seen to-day has an altitude of $0^{\circ} 10'$.

Interval between two islands, $49^{\circ} 55'$.

Tuesday, May 31st. — No observations. Crew engaged in digging a trench round the vessel, and after 4 p. m. in getting up provisions, &c., in readiness for a sledge party directed to leave the ship to-morrow morning.

A SLEDGE PARTY OFF.

Wednesday, June 1st. — No observations. At 9 a. m. a party, consisting of Passed Assistant Engineer G. W. Melville, Mr. William Dunbar, W. F. C. Nindemann (seaman), H. H. Erickson (seaman), J. H. Bartlett (first-class fireman), and Walter Sharvell (coal-heaver), started to make an attempt to land upon the island discovered by us on the 25th ult., and which bears southwest-half-west

(true) at an estimated distance of twelve miles. They carried with them the light dingy, secured upon a sled drawn by fifteen dogs, and provisions for seven days, besides knapsacks and sleeping bags and arms.

All hands assembled on the ice to witness the departure, and cheers were exchanged as the sled moved off. At 6 P. M. the travelling party could be seen from aloft at about five miles distant from the ship.

Thursday, June 2d. — Latitude, $77^{\circ} 16' 14''$ N. During the forenoon the travelling party was in sight from aloft, seemingly more than half way to the island.

RISING IN HER BED.

Saturday, June 4th. — Latitude, $77^{\circ} 12' 55''$ N.; longitude, $158^{\circ} 11' 45''$ E. From the cracked appearance of the ice around the stern it would seem that the ship is endeavoring to rise from her ice dock. To facilitate her rising and to relieve the strain upon the keel under the propeller the men were engaged forenoon and afternoon in digging away the ice under the counters and in the neighborhood of the propeller well. The said ice is of a flinty hardness and clings so closely to the ship as to show the grain of the wood and to tear out the oakum, visible where the ship's rising has left open spaces.

Bearings of the island toward which the travelling party was sent: South end S. 52° W. (true); North end S. 61° W. (true.)

A SIGNAL SMOKE. THE PARTY RETURN.

Sunday, June 5th. — No observations. At 11 A. M. started a fire on the ice ahead of the ship, adding tar and oakum to make a black smoke, as a signal of our location to the absent travelling party. At 4 P. M., the weather being foggy, fired a charge from the brass gun and one from a

whale gun as a similar signal. Carpenters pushed repairs to steam cutter.

Monday, June 6th. — No observations.

At 10 A. M. called all hands to muster, and read the act for the government of the navy. The commanding officer then inspected the ship. At 1.30 P. M. divine service was read in the cabin. At 6 A. M. sighted the travelling party making their way back to the ship; sent the starboard watch out to assist them in. At 9 A. M. the sled arrived alongside, drawn by the dogs, and accompanied by Nindemann, Erickson, and Bartlett. Mr. William Dunbar, ice pilot, was brought in by this party, having been disabled by snow blindness. At 9.40 A. M. Engineer Melville and Walter Sharvell, coal-heaver, with all remaining travelling gear, arrived on board.

“IN THE NAME OF THE UNITED STATES.”

The party landed on the island at 5.30 P. M. on Friday, June 3d, hoisted our national ensign, and took possession of our discoveries in the name of the United States of America.

The island discovered on May 17th has been named and will hereafter be known as Jeannette Island. It is situated in latitude $76^{\circ} 47' N.$, and longitude $158^{\circ} 56' E.$

The island discovered on May 25th, and landed upon as above stated, has been named and will hereafter be known as Henrietta Island. It is situated in latitude $77^{\circ} 8' N.$ and longitude $157^{\circ} 43' E.$

Tuesday, June 7th, 1881. — Latitude, $77^{\circ} 11' 10'' N.$; longitude, no observations.

THE ICE IN RAGING CONFUSION.

In anticipation of our floe breaking up and our being launched into the confusion raging about us, hoisted the

steam cutter, brought aboard the kayaks and oomiaks and removed from the ice such of our belongings as could not be secured at a few moments' notice.

Wednesday, June 8th. — No observations.

So thick was the fog until 10 A. M. that our position with reference to Henrietta Island could not be determined, but at that hour the fog cleared away, and the island was sighted right ahead, and at a distance of about four miles. As indicated yesterday we were being drifted across the north face.

The large openings near us have closed, and the general appearance of the ice to west and northwest is that of an immense field broken up in many places by the large piles of broken floe pieces, but with no water spaces.

Considerable water sky is visible to the south and southwest, and several unconnected lanes of water are to be seen in those directions. The ice, having passed the obstruction caused by Henrietta Island, has closed up again, and resumed its accustomed drift to the northwest.

Friday, June 10th. — Latitude, N. $77^{\circ} 14' 20''$; longitude, E. $156^{\circ} 7' 30''$.

The following bearings were taken of Henrietta Island at 5.20 P. M. : —

Ship's head, S. $13^{\circ} 30'$, W. (true).

S. W. point of island, S. $59^{\circ} 24'$ E.

Second cliff, S. $64^{\circ} 30'$ E.

Blackhead, S. $66^{\circ} 30'$ E.

THE WORST AT HAND.

At 11 P. M. the ship received several severe jars. At 11.30 the ice, eighty yards to the westward, opened to a width of ten feet, and, after several shocks from the ice, the ship was found to have risen an inch forward. At midnight there was considerable motion to our surround-

ing floe, and strong indications of a breaking up of the ice alongside the ship.

Saturday, June 11th, (last entry on the log, in pencil). —
Latitude, $77^{\circ} 13' 45''$ N.; longitude, $155^{\circ} 46' 30''$ E.

THE JEANNETTE AFLOAT ONCE MORE.

At 12.10 A. M. the ice suddenly opened alongside and the ship righted to an even keel. Called all hands at once and brought on board the few remaining things on the ice. The ship settled down to her proper bearings nearly, the draught being 8 feet 11 inches forward and 12 feet 5 inches aft. A large block of ice could be seen remaining under the keel. At the first alarm the gate in the watertight bulkhead forward was closed, but the amount of water coming into the ship was found to decrease—a small stream trickling aft being all that could be seen.

There being many large spaces of water near us, and the ice having a generally broken up appearance, it was concluded to ship the rudder to be ready for an emergency involving the moving of the ship. After some trouble in removing accumulations of ice around the gudgeons, the rudder was shipped, and everything cleared away for making sail.

A HOPE SOON TO BE BLASTED.

As well as could be judged by looking down through the water under the counters, there was no injury whatever to the afterbody of the ship. As soon as possible a bow line and a quarter line had been got out and the ship secured temporarily to the ice, which remained on the starboard side, as nearly in the same berth as she could be placed. By looking down through the water alongside the stem on the port side, one of the iron straps near her forefoot was seen to be sprung off, but otherwise no damage could be

detected. It was assumed by me that the heavy ice which all along bore heavily against the stem had held the plank ends open on the garboards, and that as soon as the ship was able to move from this heavy ice the wood ends came together again, closing much of the opening and reducing the leak. The water-line or rather water level, being below the berth deck, no difficulty was anticipated in keeping the ship afloat, and navigating her to some port should she ever be liberated from the pack ice of the Arctic Ocean.

Sounded in thirty-three fathoms, bottom mud, rapid drift to north-northwest.

GEORGE W. DE LONG,

Lieutenant United States Navy, Commanding.

THE DISCOVERED ISLANDS.

Jeannette Island was not landed on, but the astronomical position of it could and doubtless was well established from the data obtained by Captain De Long. It was by triangulation on the base, established by observation on different days, the ship having drifted rapidly and giving a long base line, the extremities of which were established by artificial horizon and sextant observations. I was confined to my room at the time of the discovery, but every item of it was brought to me by Dunbar, McIlville, and Chipp, and everything was so minutely described to me that I could almost see the land through the ship's side. I understood Jeannette Island to be small and rocky. The southern end appeared high, and the land sloped down to a low point to the northward when the island was first seen, but subsequently mountains behind the low point were observed, and from this fact the island was adjudged to be more extensive than at first supposed. Sketches were made whenever the island was in sight, but

it would have been foolish to have attempted a journey to it, for the drift of the ship was too rapid, and the state of the ice so changeable. A few days afterward Henrietta Island hove in sight and appeared extensive. The drift of the ship seemed arrested by the northeast extremity of the island. Lieutenant Chipp was sick a-bed with what afterward proved to be a case of tin poisoning, and I was confined to my room with my eyes.

THE LANDING ON HENRIETTA ISLAND.

So Mr. Melville had the good fortune to be the first to visit Henrietta Island, and he did his work admirably. When he left the ship the captain judged the island to be from twelve to fifteen miles distant, it appeared so plain, but he had not yet triangulated for it owing to the state of the weather. The journey from the ship to Henrietta Island was one of the hardest on record. Melville had to travel over immense masses of broken ice that were constantly in motion, and in most cases the dogs were worse than useless. He landed in a state of exhaustion, took a short run on the island, and then ordered the men to turn in. He intended to sleep until ten o'clock the next morning, but was probably anxious, and when he turned out his watch said seven o'clock, but it was probably P. M. In his anxiety he had slept only an hour and a half or two hours. The men said that they felt as if they were just going to sleep. Feeling confident, however, that they had passed the twelve hours in their sleeping bags, he finished the examination of the island and started back to the ship, and was surprised on his return that he had gained twelve hours in time. This was not surprising from the fact that during his visit to the island he did not see the sun but once, at which time Erickson said, "The sun is west, sir, and it is morning with us." So Mr. Melville on his return had a suspicion that his time was out.

DUNBAR'S BLINDNESS AND GRIEF.

During this trip Mr. Dunbar broke down with snow blindness, and had to be carried back by the party to the ship. On the way to the island he went ahead to select the road, and worked so hard and used his eyes so much, that he became thoroughly disabled. The old gentleman felt very badly, it being the first time in his long career that he had ever been physically unequal to the occasion. He begged Melville to leave him, his mortification was so great. But of course this was not done. The others bore the trip remarkably well. They had been picked out as the flower of the ship's company.

NAMING THE HIGHLANDS.

There was a mountain on the island that the men named after the captain's little daughter — "Mount Silvie;" also another mountain which was called "Mount Chipp;" two very bold headlands were called "Bennett Headlands;" one bald cape was called "Cape Melville," in honor of one of the chief engineer's characteristics. There was a low shingle beach cape extending to the northeast that was called "Point Dunbar." All these names were given by the sailors who rambled over the island, and we have always called them by the names thus originally given them. At one time the land appeared so near to us that Machinist Lee said to me, "Why, I can walk there and back, sir, before dinner." On that day I was able to get on deck, and judged the land to be between twenty and thirty miles distant, and so I advised my friend not to try it. Melville told me that he could not tell the distance he travelled to within ten miles, but that the lowest possible estimate was eighteen and the highest twenty-eight miles. You see his journey back was on a different route,

because the ship had drifted and had approached the island in the meantime. He gave me every detail of his trip with great minuteness. (The island was bold and rocky, with a small number of birds, principally guillemots, and very little deer moss on the place where he landed. But, of course, we do not know the possibilities of the extensive region to the southwest of the landing point. The island was covered with an ice and snow cap, and the immense glacier near the landing place was gigantic and magnificent. I think Melville got eighteen fathoms close to the island. No seal or walrus were seen and no traces of bears on the island. No driftwood was seen. Melville built a cairn and buried a square copper case containing copies of the "New York Herald," brought from New York by Mr. Collins, and a copper cylinder containing official documents, the latter being a record of Captain De Long's determination to stay by the ship to the last moment. He announced in them his determination to stand by the ship as long as possible, as he was in hopes of making a high latitude during the following summer.

OFF THE ICE WAYS.

We were all very glad when Melville got back, for the ice had commenced to swing round the corner of Henrietta Island very rapidly, the land to the westward of Bennett Headlands coming out rapidly and keeping Collins and Newcomb busily sketching as the view changed. The ship continued drifting to the northwest rapidly until June 10. During this time the ice in which she was imbedded began to crack, and the area of the piece was decreasing rapidly. We knew that the important moment was coming when the Jeannette would be liberated from this cyclopean vise, and that her future would be more hazardous than while in the monster's grip, for it was impossible to

shape a course, and she would be momentarily liable to be crushed by the impact of the antagonistic floe pieces, which sent immense masses of ice into the air, and among which the Jeannette would be like a glass toy ship in a railroad collision. About 11 p. m., June 10th, I was awakened by the ship's motion. It sounded as if she were sliding down hill or off the launching ways. I was frightened for an instant, but immediately recovered and jumped out of bed for my clothes. The ship had slid off her bed after the ice on the port side had opened with a loud crack. There she floated calmly on the surface of the beautiful blue water.

WHAT THE DRIFT ESTABLISHES.

The Jeannette was finally released from her icy fetters after an imprisonment of twenty-one months—that is, almost the entire duration of our voyage—and during which time we had been drifting with the pack. The important point of this drift is that we traversed an immense area of ocean, at times gyrating in almost perfect circles, and it can now safely be said that land does not exist in that area. Of course the depth and the character of the ocean bed and the drift were also determined, as well as the animal life that exists in this part of the world; also the character of the ocean water and many other facts of interest which were finished with the discovery of the two new islands. At this time we had a feeling of pleasure and pride that our voyage had not been entirely in vain, and we felt sure that we could add considerable to the knowledge of this region of the Arctic Ocean, and if we could have got out safely without loss of life the voyage would have been a grand success. Captain De Long, in my opinion, entered the ice boldly and deliberately, with the intention of trying the most hazardous route to the Pole that has ever been contemplated. When spoken to on

the subject within a few days after we found ourselves imprisoned, I stated that to be my opinion, and that he had undertaken the most daring and magnificent venture on record.

To return to the Jeannette. She was floating idly, but, of course, could not proceed, being hemmed in on all sides by almost limitless masses of ice in close contact, and having only a small pool in which she could bathe her sides. The starboard half of her old cradle remained, so she was hauled into it and secured with ice anchors on the bow and quarter to await her chance to escape. The rudder had been previously shipped and the screw propeller had been found to be undamaged, so every preparation was made to move at a moment's notice. On June 11th Henrietta Island was seen for the last time to the southeast of us.

THE ICE CLOSING IN AGAIN.

I will now describe the supreme and final moments in the life of the Jeannette. At this period of the cruise I was able to spend one hour on deck, three times a day, for exercise, the last relapse of my left eye having taken place a month previous. I went on deck at one o'clock in the afternoon and saw the hunters start out. The day was clear and beautiful, there was a light wind from the northeast, and in some quarters of the horizon it was misty and very much like in the trade wind regions of the Pacific. A large party was sent out to get seals and guillemots if possible. My hour was up and I still lingered on the quarter-deck, for the ice on the port side, some twenty-five yards distant, had commenced to move toward us, and I was fascinated by the dangers of the situation. The captain was on deck, and immediately hoisted the hunters' recall, which was a big black cylinder at the main truck. They began to come in one by one, and the last ones were

Bartlett and Aneguin, who were dragging a seal with them. At the time of their arrival the ice was in contact with the port side of the ship, and she was heeling about twelve degrees to starboard, with her port bilges heavily pressed. The two hunters approached on the port side, passed their guns to me, and came up by a rope's end that I had thrown to them. The pressure on the ship was terrible, and we knew that she must either lift and be thrown up bodily upon the ice or be crushed. During the whole cruise, provisions, tents, and boats with sleds were kept ready for immediate use, and at this time every step was taken for the impending catastrophe.

THE JEANNETTE'S DEATH STRUGGLE.

About 3 P. M. Machinist Lee reported the ice coming through the bunkers, and the captain immediately ordered "Lower away!" men having been previously stationed at the boats' falls and some provisions put on the ice. Melville immediately contradicted the report and the captain delayed the order. Thus the ship lay for two hours and a half, the pressure of the ice relaxing at times and the ship almost righting. Then again, she would be hove over to twenty-three degrees, and we felt sure there was no longer any hope for her, for she would not lift. There was nothing in the world to be done to assist her at that time. We had to depend upon her shape. I have forgotten to tell you that she, of course, floated much higher than when we entered the pack, and that led us to hope that she would lift easier in the nip, for the pressure of the ice would be below the point at which her sides commenced to tumble home. On the starboard side, while she was heeling, the nip was felt on her timber heads, which were the weakest parts of the frame, but on the port side she was pressed below the turn of the bilge. Her fate was practically

decided the moment we found she would not lift, and a large amount of provisions and clothing was then placed on the ice in readiness for the catastrophe.

THE LAST MEAL ON BOARD.

One watch went to supper at half-past five, and the officers had bread and tea in the cabin at six. I was on the sick list, with eye bandaged, but told the Doctor that I could get the charts and instruments together and be of assistance. He said he would ask the captain. Each officer kept his knapsack in his room, and most of us thought it was time to have them on deck; but we would not make the move until ordered for fear of attracting the attention of the crew, who were at work on provisions and boats. While I was taking tea I saw Dunbar bring his knapsack up and put it in the cabin. Feeling that the moment had arrived I went for mine, and at the head of the ladder on my return the Doctor said to me: — “Dan, the order is to get knapsacks.” It seems that he had stepped below and found water in the wardroom, which he reported to the captain, and the order was then given to abandon the ship. The national ensign was hoisted at the mizzen, and Captain De Long was on the bridge directing the work. Lieutenant Chipp was confined to his bed. I threw my knapsack over the starboard rail and returned for clothes, but on stepping into water when half way down the wardroom ladder I realized that the ship was filling rapidly. The Doctor and I then carried Chipp’s belongings out, and I was told to take charge of the medical stores, especially the liquor. The ship in this condition was like a broken basket, and only kept from sinking by the pressure of the ice, which at any moment might relax and let her go to the bottom.

BRAVE EDWARD STAR.

The crew worked well, and Edward Star, seaman, especially distinguished himself. He was doing duty at the time as paymaster's yeoman, or "Jack of the Dust." The order was given to get up more Remington ammunition, and he went into the magazine when the ship was filling rapidly, and succeeded in getting two cases out. This man was in Lieutenant Chipp's boat afterward. We always thought him a Russian, but he spoke English very well, and never would speak of his nationality; but during his dreams he talked in a language that was neither English, French, German, Swedish, Spanish, nor Italian, and most of the men thought it was Russian. He was an excellent man and a giant in strength. The captain thought a great deal of him, for he served him faithfully in every responsible position.

THE CREW ON THE ICE.

When the order was given to abandon the ship, her hold was full of water, and, as she was heeling twenty-three degrees to starboard at the time, the water was on the lower side of the spar deck; and I hope that our friend, the "London Standard," will not now think that we deserted her and left her adrift in the Arctic, as was stated in one of the issues of that paper. We had a large quantity of provisions on the ice about a hundred yards from the ship, but Mr. Dunbar, who was alive to the occasion, advised the shifting of these to an adjacent and more favorable floe piece. It took us till 11 P. M. to effect the removal. We also had three boats—namely, the first cutter, second cutter, and the whale boat. As soon as Dr. Ambler had looked out for Chipp he relieved me at my post, and I went to work with No. 3 sled party, which

I had been detailed previously to command. The order was given to camp and get coffee, so we pitched our tent abreast of the whaleboat, and I set about fitting out for the retreat.

THE CAPTAIN'S LAST GOOD-BY.

While waiting for coffee I walked over to the ship to take a final look at her, and found the captain, Boatswain Coles, and Carpenter Sweetman on the port side looking at her under-water body, which was hove well out of water. I observed that the ship's side between the foremast and smokestack had been buckled in by the pressure, and that the second whaleboat was hanging at the davits, and also that the steam cutter was lying on the ice near by. Coles and Sweetman asked the captain if we could lower the second whaleboat, and the captain said "No." The three boats, however, were considered enough, and while journeying on the ice we afterward found Chipp's boat to be the favorite with all hands, because she was considered short and handy, with sufficient carrying capacity for eight men. I then suggested to the men to return to the camp, for the Captain doubtless wished to be alone with the Jeannette in her last moments.

ALMOST DROWNED.

We three returned to the camp together, having to jump across numerous wide cracks and from piece to piece, and soon after the watch was set and the order given to turn in. Most of us obeyed the order promptly, and were just getting into our bags when we heard a crack and a cry from some one in the captain's tent. The ice had cracked immediately under the captain's tent, and Erickson would have gone into the water but for the mackintosh blanket in which he and the others were lying, the weight of the

others at the ends keeping the middle of it from falling through. The order was immediately given to shift to another floe piece, which Mr. Dunbar selected for us. This was about three hundred yards from the untenable ship. After about two hours' work we succeeded in shifting all our goods and our three boats to it. We then turned in.

THE SHIP GOES DOWN.

About four o'clock I was awakened by Seaman Kuchne calling his relief, Fireman Bartlett, who was in our tent. Kuchne called to Bartlett that the ship was sinking, and the latter jumped to the tent door and saw the spars of the *Jeannette* after the hull was below the surface. We heard the crash, but those were the only two men who saw the vessel disappear. It was said that the ice first closed upon her, then, relaxing, allowed the wreck to sink; the yards caught across the ice and broke off, but being held by the lifts and braces were carried down—depth, thirty-eight fathoms, as I remember. The next morning the captain and others visited the spot and found only one cabin chair and a few pieces of wood—all that remained of our old and good friend the *Jeannette*, which for many months had endured the embrace of the Arctic monster. The *Jeannette* sank about four o'clock of the morning of Monday, June 13th.

THE RETREAT BEGINS.

Our retreat commenced on the 17th—the anniversary of Bunker Hill. We were detained there four days in making preparations, and on the doctor's recommendation awaiting the improvement of the sick.

PART III.

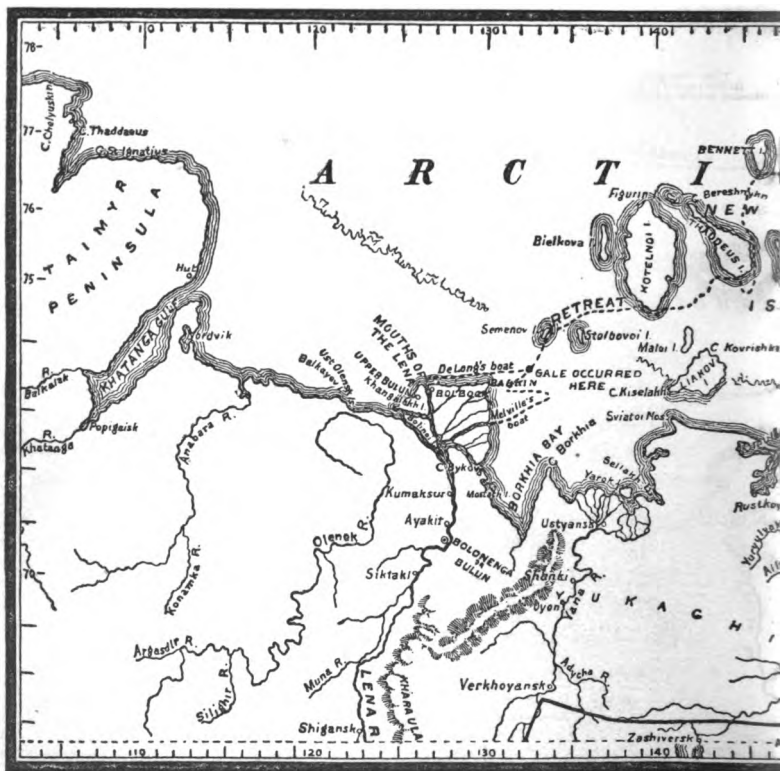
THE RETREAT, AND EXPERIENCE BEFORE MEETING THE SIBERIAN NATIVES.

ON THE ICE.

THE Jeannette sank about 4 o'clock of the morning of the 13th of June, 1881. Daylight found us encamped on the ice about four hundred yards from where the ship went down. We had slept late after the exhausting work of the previous night. The day was spent by us in arranging our effects and in gaining rest, which was much needed. Many of us, indeed quite a quarter of the number, were incapacitated for active work by reason of severe cramps caused by tin poisoning from tomato cans. Among the sick were Chipp, Kuchne, the Indian Alexie, Lauterbach, and the cabin steward. The doctor recommended delay until the sick party should have recovered. But the time was not wasted, and the rest of the crew began the work of dividing the clothing and stowing the sleds and boats. We had as provisions about 3,500 pounds of pemmican in tinned canisters of 45 pounds weight each, about 1,500 pounds of hard bread, and more tea than we needed. We had also some canned turkey and canned chicken, but these we disposed of in the first camp. We had a large quantity of Liebig's extract—a most important element in our diet. We had a large quantity of alcohol, which was intended to serve as fuel for cooking

THE JEANNETTE

Map showing her Drift to and fro with the ice and the line of the



NOTE.—The above chart was made from a sketch chart that was constructed in the advertisement that came with Liebig's Extract of Beef. The Mercator projection

IN THE PACK.

Crew's Retreat, as charted at Irkutsk by Lieutenant Danenhower.



During the retreat over the ice. Owing to lack of paper it was made on the back of
, however, was correct.

during our retreat. We had plenty of ammunition and a good equipment of rifles. The provisions were stowed on five sleds, each having a tier of alcohol cans in the middle, and on either side a tier of pemmican canisters. Another sled was loaded with bread and a limited quantity of sugar and coffee. The weights of the sleds, when loaded, were as follows :—

No. 1. Ship-made sled, 1,500 pounds.

No. 2. McClintock sled, 1,300 pounds.

No. 3. McClintock sled, 1,200 pounds.

No. 4. McClintock sled, 1,300 pounds.

No. 5. McClintock sled, 1,300 pounds.

Total, 6,600 pounds.

We had three boats, mounted upon ship-made sleds, each of which consisted of two heavy oak runners, about twelve inches high, and shod with whalebone, of about twelve feet in length and having eight to ten cross-pieces made from whiskey-barrel staves.

The weight of the first cutter, with sled and outfit, was 3,000 pounds.

Weight of second cutter, with sled and outfit, 2,300 pounds.

Weight of whaleboat, with sled, 2,500.

Making a total of 7,800 pounds, or a grand total, of sleds and boats, of 14,400 pounds.

To draw these we had a working force, when the retreat commenced, of twenty-two men, and the dogs were employed with two light St. Michael's sleds to drag a large amount of stores that we had in excess of those permanently stowed upon the larger sleds. Each man had a knapsack stowed away in the boats; each knapsack contained one change of underclothing, one package of matches, one plug of tobacco, one spare pair of snow goggles, and one spare pair of moccasins.

THE START SOUTHWARD.

On the 16th of June, three days after the Jeannette had sunk, the captain called all hands and read an order to the effect that we would start at 6 P. M. on the following day, on our march south; that we would work during the night and sleep during the day to avoid the intense light, which might cause snow blindness, the routine to be as follows: At 5.30 P. M. call all hands, have breakfast and break camp at 6.30 P. M.; at 12 midnight, stop one half hour for dinner; at 6 A. M. stop for supper and sleep. Ration table during the march to be as follows: —

Breakfast (per man). Four ounces pemmican, two biscuits, two ounces coffee, two-thirds ounce sugar.

Dinner. Eight ounces pemmican, one ounce Liebig, one-half ounce tea, two-thirds ounce sugar.

Supper. Four ounces pemmican, one-half ounce tea, two-thirds ounce sugar, two biscuits, one ounce of lime juice.

This amounted to less than two pounds per man per diem. The party was divided into five tents.

No. 1. Captain De Long, Mr. Collins, and five others.

No. 2. Lieutenant Chipp, Mr. Dunbar, and five others.

No. 3. Lieutenant Danenhower, Mr. Newcomb and five others.

No. 4. Engineer Melville and five others.

No. 5. Dr. Ambler, Boatswain Cole and five others.

The captain had also an office tent, in which half of his men were berthed. The tents were 9 feet long by 6 wide, and required very close stowage for seven men. Each tent had a fire pot, a heavy galvanized iron kettle, in which a copper kettle was arranged, having an alcohol lamp beneath it with a circular asbestos wick ten inches in diameter. It also had a stewpan on top. A cook was detailed to each tent, with an assistant to provide snow

and to draw provisions. Each tent had a Mackintosh blanket nine by six, upon which the men could lay at night. The sleeping bags were made of deerskin, covered with hairless sealskin or cotton drilling. In our tent there were three such single bags and two double ones; but generally single bags were in the other tents. Ours had been designed by Mr. Dunbar in November, 1879, and were the only ones that did not require alteration after we got on the ice. Each boat was provided with an outfit of oars, a boat box with suitable articles for repairing damages, and ammunition for the arms that had been detailed to each boat.

THE ORDER OF MARCH.

The order said that the course would be S. 17° E. (magnetic), which was S. (true). I may here state that the boat compasses were intentionally left behind, because the captain said he preferred the pocket prismatic compasses. We had six splendid Richie boat compasses, always kept in the Jeannette ready for instant use, but they were, as I said, left behind, much to our detriment at a later period. Each boat had been provided with a luff tackle, anchor, and grapnel. Of course the anchor and grapnel had to be left behind, but the whaleboat retained the luff tackle, which proved extremely useful at a later date. The order of march was as follows:—All hands except a special detail of four men were to advance the first cutter to the first black flag established by Ice Pilot Dunbar, who was to go ahead to select the best road; then the second cutter and the whaleboat and provision sleds were to be brought up to the first station as rapidly as possible. While this was going on the special detail of four men, with St. Michael sleds, were to advance the extra provisions; and the sick, with the hospital sled, were also to move to the front. We were ordered to sleep during the afternoon of

June 17th, and on the anniversary of the battle of Bunker Hill we commenced our long retreat. Chipp was on the sick list, and I, with my eyes constantly bandaged and covered, could only do light duty, so the task of leading the working party fell to Melville, the captain directing. Each officer and man was provided with a harness, which consisted of a broad canvas strap, fashioned to go across the chest and over one shoulder, and which had to be attached to the sled by a lanyard. At last the order was given to break camp. The order was obeyed with enthusiasm, and the drag rope of the first cutter was immediately manned, Melville, Dr. Ambler, myself, and two other men stationing ourselves on either side of the boat with harness fast to the thwarts, and then our work commenced in terrible earnest. The snow was knee deep, the road very rough, and the ice full of fissures. Through the former our feet sank easily, soon wearying the best of us; over the fissures, if not too wide, we had to jump the boats, and we had to drag the sled over lumps of ice that would have taken a whole corps of engineers to level. But we advanced steadily, if slowly. We reached one of the black flags that had been planted by Ice Pilot Dunbar, but, seeing that he had planted another one ahead of us, we pushed on with the first cutter to reach that too. This goal reached we found that we were a mile and a half from the starting place, and that it had taken us three hours to make the distance.

A MILE A DAY.

But we, in our enthusiasm, had gone too far. It appears that the captain had only intended that we should make a single short station on the first day, but the order had probably been misunderstood by Mr. Dunbar, whose only wish was that we should make as good progress as possible. So we had to return; but on our way back we

found that the ice had shifted, and that our original road had been entirely broken up, and so we had to leave our sled midway between the two flags, and then go to the assistance of the rest. We soon found that we had been fortunate with the first cutter. During our absence the captain, with a special detail and dogs, had attempted to advance the second cutter and whaleboat. He had launched the whaleboat across a fissure and had broken the sled in hauling her out. No 1. sled, named the "Silvie," had also been broken, as well as two others. The ice was all in motion, and we had a very bad outlook, with our boats and sleds at various points on the road. Chipp had been ordered to advance with the hospital sled, with Kuchne and Alexie and three men to assist him. The sled was heavily laden, and the work was too severe for the first lieutenant in his weak state, and the result was that he fainted from sheer exhaustion, requiring the services of the doctor to restore him. On our first outward march Machinist Walter Lee had fallen out of the ranks and rolled upon the ice in agony with cramps in the calves of his legs — a result, doubtless, of his having worked for so many months on the iron plates of the fire room, oftentimes with wet feet. He was a large, heavy-bodied man, and the unusual task fell heavily upon him at first. At 6 A. M. (we had been in the region of the midnight sun since the early part of May), we had advanced the second cutter about three-quarters of a mile from the old camp; the whaleboat was about a hundred yards back of her. Several disabled sleds stood at intervals along the road, while the balance of our stock still remained in the spot where they had been placed before the Jeannette went down. It was a cold, foggy morning, and we were very much chagrined at our ineffective efforts. We had a cup of tea, then brought up everything in the rear of the position of the second cutter, and then camped down, leaving

the first cutter about three-quarters of a mile in advance. Each voted this the hardest day's work he had ever done in his life.

REPAIRING DAMAGES.

For two days we stayed to repair damages, and we all concluded that the "now or never" policy of progress was a very ineffectual one. It would have been better for us to have spent a few minutes in removing the ice obstacles out of our way rather than attempting to drag the sleds over them by brute force. I did not know much about sleds and just how much spread to give the runners, but fortunately Seaman Leach was from the State of Maine, and I depended on his judgment, and I may add that our boat sled never broke down once after he and Bartlett — an old mountaineer and Californian traveller — had secured it. After two days we again made a start for the south. We made slow progress, about a mile or a mile and a half a day over the rough and moving floe. It was terrible work for the men. They had to go over the road no less than thirteen times — seven times with loads and six times empty handed — thus walking twenty-six miles in making an advance of only two! The empty-handed business was the worst. On the 19th of June the captain called me into his tent, and told me to go with the hospital sled because, he alleged, I could not see. I remonstrated, but without avail. I went back to my tent, naturally deeply mortified to know that thirty-three men were working for their lives, and I was not allowed to help even at the cooking, although physically I was one of the strongest men of the party. That morning I started with the hospital sled, which was dragged by seven dogs, driven by Erickson, the doctor and I assisting over the hummocks. We advanced over rough moving ice with great difficulty about half a mile, and then set up the tent for the three invalids — Chipp,

Lauterbach and Alexie—to await the coming up of the rest of the party. I myself would never go inside the hospital tent. Thus we all trudged along, the well heavily handicapped by the six or seven who furnished no motive power at all. Twenty-one men did most of the work for the thirty-three. At the end of the first week the captain found by observation that the drift had more than neutralized the way covered by our advance; that, in fact, we had lost twenty-seven miles by the drift to the northwest in excess of our march to the south! This, of course, was kept a profound secret.

FERRYING ACROSS THE FISSURES.

By and by Lauterbach and Alexie got well enough to work; and finally Mr. Chipp, after several ineffectual requests to be put on duty, was allowed to relieve Melville, and take charge of the working party. Melville was put in charge of the road gang, which consisted of Lee and Seaman Johnson, with the dingy and the team of dogs. Their principal duty was to keep in position the blocks of ice that were used as temporary bridges to enable the sleds to pass safely over the fissures. We often came to wide water holes, which caused us much delay in ferrying over. The method of doing this was as follows:—First, a large ice piece was found; on this the boats and sleds were placed, and then all the floating mass was drawn over by the men on the other side, who had transported themselves across by the little dingy or even on smaller ice-blocks. Some of these water spaces were as much as a hundred yards wide. These openings were not connected and of course could not be used in the direction we wished to go. On many occasions the boats had to be launched and paddled across, and then hauled up again on the opposite side. Chipp took charge of this part of the work admi-

rably, and the men were always glad to have him at their head. It was wonderful how he kept up. As soon as the list was clear of sick the hospital tent was dispensed with, and I for many days walked after the whaleboat, but with Melville always watching me in jumping cracks, and pulling me out when I fell in. I found it very difficult to judge of distances with one eye bandaged and the other covered with a dark goggle. Collins generally walked with me; Newcomb and Seaman Star followed other sledges, all of us suspended from work. Besides these, the captain, Chipp, Melville, and the doctor added little or nothing to the motive power. Eight persons out of thirty-three, or twenty-five per cent of the whole, were thus, so to speak, not working their passage across the ice, though the officers were directing.

PLANTING THE ROAD FLAGS.

In the latter part of June the snow all melted and travelling was better, but the men had to wade through pools of thaw-water, and their feet were constantly wet. Seaman Kaack's feet were covered with blood blisters, but he never gave up. Nindemann and Bartlett were always the leading men in dragging the boats, each being stationed at the bow to slue them and to lift them over heavy obstructions. As the roads became better they were able to advance two sleds at a time, but they would often have to jump them from piece to piece in crossing leads. Jack Cole and Harry Warren were the leading men of one party, and Bartlett and Nindemann of the other. The number of times passed over the ground was now reduced to seven, and the advance was thus very much facilitated. Mr. Dunbar used to start out, with two or three flags on his shoulder, and pick out the best road, planting his flags here and there in prominent places. The old gentleman

was very careful and efficient, though the captain would often take an entirely different road, on several occasions insisting on ferrying the goods across after the ice had come together within fifty yards of us.

LAND IN SIGHT.

About the 12th of July we saw a "whale back" that looked very much like a snow-covered island. I have forgotten to tell you that there were some slight changes in the course previous to this. I think it was changed to south (magnetic), which would be about S. 17° W. (true), for there was about 17° of easterly variation. The captain then shaped the course toward the point where land was thought to have been seen. At this time we began to see a heavy water sky to the south and south-east, and the ice to the south-west was more broken and in greater motion, making travelling very difficult. About July 20th we worked about twelve hours in advancing a thousand yards over small pieces of ice constantly shifting. We could not float the boats. The land already mentioned appeared greatly distorted by atmospheric effects, and indeed, until within a few days of reaching it, a great many would not believe that it existed at all.

Our progress toward the land was very slow, but finally we could see the glaciers and water courses upon it quite distinctly. We were shaping a course toward the north-east end of the island, the drift of the ice being along the east face. At times we were forced to remain idle in our camping place, it being quite impossible either to move over the rough, broken ice, always in rapid motion, or to launch the boats. On the 24th of July we reached a point not more than two miles distant from the land, but the men were so exhausted that we had to camp. Next morning we found that we had drifted at least three miles to the

southward and along the east side of the island. July 27th was very foggy, and we were working our way through moving masses of ice, when the mist lifted a little and an immense sugar-loaf towered above us.

BENNETT ISLAND.

We had been swept in by the current, and now seemed to be our chance of reaching the icefoot of the island, which was very narrow, rugged, and broken, being aground in nineteen fathoms of water. We finally got everything on one big floe piece, and as we carromed on the icefoot we made a rally and jumped everything upon the ice-clad beach. But before the last boats and sleds were hauled up the floe piece drifted away, leaving them perched on the edge of the ice in a very dangerous position, and they had to be left there for some hours. Then succeeded the difficult work of getting the boats and sleds through the very rough and broken ice-fringe along shore. About 6 P. M. we had succeeded in reaching some smooth pieces near the south cape, and there we camped down, each tent being on a separate piece of floe. There was a solid breakwater outside of us, consequently we were not in any great danger, though the blocks we were on were sometimes in motion as the tide rose and fell. At this point the sides of the island were very bold and steep, composed of trap rock and a lava-like soil, very dry, so much so that frequent land-slides were occurring all the time we were there. Mr. Collins and I took a walk over the rough ice and along the south point of the island in order to get a view of the south side. It appeared very rugged, and trended off to the west-north-west. From a high hummock we saw land to the west-north-west. About 7 P. M. the captain mustered everybody on the island. It was so steep that we could hardly get a footing. He then unfurled the beauti-

ful silk flag that had been made for him by Mrs. De Long, and took possession of the island in the name of the President of the United States, and called it "Bennett Island." This was succeeded by hearty cheers, three times three, with a good American "tiger." There were millions of birds nesting in the cliffs, and their noise was almost deafening. I think one seal was seen, but no walrus, during our stay of nearly a week on the island. The south cape was called Cape Emma, after the captain's wife, and was in latitude $76^{\circ} 38' N.$, longitude $148^{\circ} 20' E.$

SOJOURN ON THE ISLAND.

The whaleboat was so long that in crossing hummocks the stern-post used often to receive heavy knocks, and her garboards had been stove; indeed, she had been shaken up so badly that she was as limber as a basket and required repairs, as did the other boats. The captain and doctor thought, too, that the party needed rest and change of diet, so the men were sent out to get birds and driftwood, so that we could economize on our alcohol. In a few hours they knocked down several hundred birds with sticks and stones. These were brought into camp and divided out. Their effect, after being eaten, was like that of young veal, and pretty nearly every one of the party was made sick, the doctor included. I used to eat half a peck of scurvy grass every day, and that kept me well. But we had finally to return to pemmican, and were very glad to do so after such a surfeit of birds. Mr. Dunbar and the two Indians were sent up the east side of the island to explore. They were gone two days and reached the north-east point. They found the land on the east side was more promising than on the south. They found several grassy valleys, some old deer horns, some driftwood, and saw large numbers of birds. Lieutenant Chipp, with Mr. Collins and a

boat's crew, explored the south and west sides, and promising reports came from them. A fair quality of lignite was found in several places. Mr. Melville experimented with it and determined that it would be serviceable fuel for steaming purposes. The tidal action at the island was very great and quite remarkable for this part of the world. The ice outside of us was in constant motion and seeming to be lifted regularly with the rise of the water. We had a tide gauge set up, and it was observed every hour by Bartlett, Nindemann, and Lee. As I remember, the greatest rise and fall was about three feet; they were regular six-hour tides. We were there near the time of full moon, and the "vulgar establishment" was probably determined. At Cape Emma the captain got a set of equal altitudes of the sun for chronometer error, but the weather was generally misty and unfavorable for such work. A box of geological specimens was obtained and is now in my charge, it having been recovered from the captain's cache, near the mouth of the Lena, by Melville. The doctor was very enthusiastic about certain amethysts, opals, and petrifications that he had obtained; these are probably lost. While on the island I observed that the sea to the south and west was freer from ice than that to the eastward, and that water clouds to the northwest were very common, and it occurred to me that in good seasons a vessel could reach the island, which might form a good base for explorations further to the north.

LEAVING BENNETT ISLAND. — THE DOGS.

We left Bennett Island about the 4th of August. We were then fifty-three days out from the place where the Jeannette had sunk. We were fortunate enough in being able to launch our boats and to make better progress in the cracks between the floes. But we still had to keep

our sleds for a short time longer. I have not told you much about the dogs, some of which rendered us very important services; but about half the number were now disabled by famine and weakness. We had forty originally, but about sixteen had died or had been killed by the others during the two winters in the ice. After the stock of dog food gave out and the scarcity of game there were long periods of starvation for the poor brutes. Each man had a favorite animal, and would share his own rations with him, but this was not sufficient. At Bennett Island we had, I think, still twenty-three left, and the day before leaving eleven of the poorest of these were shot. We took the remaining twelve in the boats, but in passing close to big floe pieces these gave us a great deal of trouble by jumping out and running away. Finally Kasmatka and Snoozer were the only two that had sense enough to remain by us. For the next eighteen days we were working between floe pieces, and sometimes making as much as ten miles a day on our course to the southwest. Several times a day we would have to haul the boats out and make portages across the large floe pieces that barred our progress. This was very severe work. We had at this time retained only the boat sleds, having left the provision sleds and all superfluous articles on a floe piece about August 6th. We now worked during the day and slept during the night. At Bennett Island the doctor, who belonged to my boat, had been transferred to the captain's, and Mr. Melville was placed in charge of mine, that is, the whaleboat. I was ordered to remain in the boat as a passenger and to assist in emergencies. I always carried my own baggage, and assisted whenever possible. Dunbar was detailed with Chipp. We made very good progress until about August 20th. On that day the leads were very open, and we thought we were all right. The wind was fresh and favorable; the first cutter and whaleboat, which followed

closely, passed safely through great quantities of ice, but the second cutter was in the rear and became jammed by the floe pieces coming together very suddenly, and Chipp had to haul out and transport his boat about a mile in order to get her afloat again. In many cases a passage was obtained by prying the floe pieces apart; but several times these sprung back, thus cutting off the advance of the second cutter. It was very hard and slow work, but much better than dragging the sleds over the ice. The delay caused by getting Chipp's boat afloat was very fatal to us, for the wind shifted suddenly and we were forced to camp after waiting for him several hours. The ice jammed up during the night so that we had to remain there ten days without being able to move.

A TEN DAYS' IMPRISONMENT — THADDEUS ISLAND.

Then land came in sight, and we seemed to be drifting along the north face of an island which the captain at first thought was New Siberia, but it was afterward found that we were drifting along the north coast of Thaddeoffsky. We drifted along this coast until the 28th of August, when at last we were again able to make a move. We called the place the Ten Day Camp. But we had used the delay in making repairs, and the food had been distributed *per capita* among the boats. On the afternoon of the 29th we launched the boats again and worked in the pack for about two hours, when further progress was again barred by the ice. Finally new connecting leads were found, and we proceeded to the southward and eastward for about five hours. Then we hauled up for the night on a small piece of floe ice, which was drifting very rapidly to the southward and down the passage between New Siberia and Thaddeoffsky. The next morning found us in navigable water and with land about seven miles distant

to the westward. Then we rounded the south point of Thaddeoffsky. We found the island to be composed of mud hills that were wearing away rapidly and forming shoals off the land. Beyond the low hills there was a wet, mossy "toondra," upon which we camped for the night. All hands were then sent out hunting. Reindeer tracks and traces were numerous, but none were seen. Bartlett reported that he found footprints in the sand made by a civilized boot. The steward found a hut about two miles west of the camp and a small piece of black bread, as well as a small tusk and a knee piece for a boat fashioned from a deer horn. The next morning we proceeded west along the shore, the water being very shoal. We saw remains of several huts and quantities of driftwood. We also saw lots of ducks and wild fowl, and Newcomb succeeded in getting about six brace of ducks, which were very welcome. That night we tried to land, but, after several ineffectual efforts, gave up the attempt, as the water was too shoal for our boats.

THE BOATS.

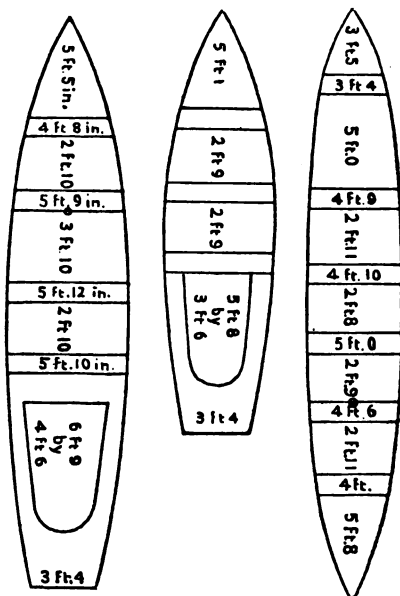
At this period of the retreat I think it would be well to give the details of our boats, for they and their qualities were to be of great importance to our safety.

First Cutter. — THE CAPTAIN'S BOAT. — Captain De Long, Dr. Ambler, Mr. Collins, Nindemann, Erickson, Görtz, Noros, Dressler, Iverson, Kaack, Boyd, Lee, Ah Sam, Alexie. Extreme length, 20 ft. 4 in.; breadth, 6 ft.; depth, 2 ft. 2 in., from the top of gunwale to the top of keel; clinker built, copper fastened, inside lining; drew twenty-eight inches loaded, and had the greatest carrying capacity of the three; fitted with mast and one shifting lug sail; pulled six oars and was an excellent sea boat. She had a heavy oak keel piece to strengthen her in hauling over the ice, and it was retained after reaching the

water. She was fitted with weather claws at Semmoffsky Island, September 11th, by Nindemann.

Second Cutter. — Lieutenant Chipp, Dunbar, Sweetman, Staar, Warren, Kuchne, Johnson, Sharwell. Extreme length, 16 ft. 3 in.; breadth, 5 ft. 1 in.; depth, 2 ft. 6 in. from top of gunwale to top of keel; clinker built, copper

First Cutter. Second Cutter. Whaleboat.



fastened, a very bad sea boat; she was carefully fitted with weather claws; had one dipping lug sail and four oars. She had not sufficient carrying capacity for Chipp's allowance of provisions, so the captain had two extra tins of pemmican in his boat when we separated. This is an important fact, for Lieutenant Chipp must have run out of food very quickly.

Whaleboat. — Engineer Melville, (commanding), Lieutenant Danenhower, (invalid), Cole, Newcomb, Leach, Mansen, Wilson, Bartlett, Lauterbach, Steward, Aneguin. Extreme length, 25 ft. 4 in.; breadth, 5 ft. 6 in.; depth, 2 ft. 2 in. from top of gunwale to top of keel; clinker built, copper fastened, drawing about twenty-four inches when loaded, this being caused by the heavy oak keel piece, similar to those of the first and second cutters. She had one mast and one dipping lug sail, and was fitted with weather claws about September 11th. The master boat-builder at Mare Island told me that she was one of the best fastened boats that he had ever seen, and our experience proved it, for the racket she stood on the journey over the ice was almost incredible. The plans of the boats I got from Carpenter Sweetman at Koltanoi Island, September 4th, 1881.

AMONG THE NEW SIBERIAN ISLANDS.

But to return. The captain decided to work along the shoal that lies between Thaddeoffsky and Koltanoi Islands. There was a moderate wind from the eastward, and the captain tried to keep close in, in about four feet of water. The result was that the first cutter was constantly grounding and then laboriously getting off again. We continued on our course to the southward, the captain's boat getting in breakers at one time and calling for our boat to pull him out. There was not much ice at the time, and it was decreasing. One day, about noon, we ran through a line of drift ice, and the whaleboat struck on a tongue that was under water. She began to fill rapidly, and we had to haul her out, but not before she was two thirds full could we reach a suitable ice piece. The plug had been knocked out, but she had sustained no other damage. That afternoon we passed through a large water space

several square miles in area, with a heavy sea running. We were steering dead before the wind, having to follow in the wake of the captain, and it was very difficult to keep from jibing.

About 3 P. M. the coxswain let her jibe, and she was brought by the lee by a heavy sea on the starboard quarter. The sheet was not slacked in time, and the boat was hove almost on her port beam ends. A heavy green sea swept over the whole port side and filled her to the thwarts; she staggered and commenced to settle, but every man with a bailer in hand quickly relieved her, and she floated again. I was never frightened before in a boat, but it was a most dangerous and terrible situation. There was no chance for the captain or Chipp to have assisted us, and, had another sea boarded us not a man of our party would have been saved.

The weather was very cold. Two hours afterward we met the ice, among which we made our way. Chipp's boat was still astern and in the water hole, and we were very anxious about his safety. The captain hauled up about 7 P. M. and camped with us. The next day the gale was still blowing, and Chipp's boat still missing, so about 6 P. M. the captain hoisted a black flag. On the following day Bartlett reported that the ice was closing around us, and that if we did not move we would be shut in. Two hours afterward all outlets were closed. Land was also in sight at this time, being Koltanoi Island. Erickson was the first to see Chipp's boat, and presently we saw two men making their way over the floe and jumping across the obstructions. It was Chipp, with Kuchne. His boat had been nearly swamped, and in a sinking condition he had reached a piece of ice and managed to haul up. Staar was the only man with his boat at that time who could walk, the others requiring ten or fifteen minutes to get up circulation in their benumbed limbs. The cap-

tain had previously given written orders that in case of separation each boat should make the best of its way to Lena River, but he had recommended touching at Koltanoi Island. Chipp had fortunately decided to follow these instructions, because he had not his allowance of food. We, ourselves, had been on half rations for some time. He had remained on the ice about twenty-four hours, and then got a chance to get under way. He told us that by making a portage of about two miles we could launch our boats and fetch the land. He sent his men to assist us, and after six or eight hours of terrible work we succeeded in getting our boat to the second cutter. That night we reached the southeast corner of Koltanoi Island, and camped on a low cape extending well out from the mountain and forming a beautiful bay.

This was September 5th, I think. We stayed there about thirty-six hours. Large parties were sent out hunting, as numerous deer tracks had been seen. Next morning we got under way again and worked along shore until about noon, when we had to make a long and laborious portage, during which Mr. Dunbar fell down exhausted and with palpitation of the heart. We continued until midnight, and then camped on a bleak, desolate spot. Next morning, September 7th, we shaped a course for the island of Stolbowei from the south point of Koltanoi, fifty-one miles distant to the southwest. We had fresh breezes the first day, and during the night got into a very bad place, and came very near being smashed up by drift ice. We passed in sight of Stolbowei; but it was not considered worth while to land on the barren island, which was, besides, too distant.

SHOOTING A DOE.

On the night of September 9th we hauled up on a piece of ice off the north end of Semmoffsky Island, and there

slept. On September 10th we rounded the north end of this island and came down the west shore, stopping to cook dinner and to examine the island. Having seen the tracks of deer going toward the south end of the island, the captain suggested that a party of hunters deploy across it and advance to the south in hopes of getting a deer. About ten of us went. I went along the beach with Kuchne and Johnson, Bartlett, Noros, Collins, and the Indians skirting the hills. We raised a doe and fawn running to the northward as fast as possible, they having previously seen the boats. Several shots were fired and the doe fell under Noros' last shot. We hurled the body down a steep bluff to Chipp, who had it butchered, and the captain ordered all served out, having previously given orders for all hands to camp.

WEARY TRAVELLERS.

That evening the captain told Melville that he and many of his party were badly used up, and must have rest and a full meal before proceeding. All these days — for the past twenty — we had been on very short allowance and had never had a full meal. Melville said that he and his party were in excellent condition and wanted to move on, and did not like losing time. The entire deer was served out, and we had orders to remain till Monday morning, or about thirty-six hours. We have noticed that after two or three days of northeast winds it generally finished up with a heavy gale from that quarter, and it was thought we would be likely to get it on Monday or Tuesday. That evening Chipp came over and asked me to go out with him to get some ptarmigan if possible. We came upon a large covey, but could not get a shot. This was my last talk with Chipp. He was in better health than usual and was cheerful, but not altogether satisfied

with the outlook. On Monday morning, September 12th, we left Semmoffsky Island and stood to the southward, along the west side of the island, lying to the south. About 11.30 A. M. we ran through a lot of drift ice, following the first cutter.

It was pretty close work, and our boat had to luff through between two big cakes of ice. The sheet was hauled aft in luffing, and the boat sided over against the lee piece of ice, thereby knocking a hole in the starboard side. She filled rapidly, and we barely succeeded in hauling her bows up to an adjacent cake of ice; there we put on a lead patch and repaired the damage. This was the last piece of ice that we saw. While repairs were going on I had a chat with Collins, who was as amiable as usual, and had some pleasant story to tell me. The doctor was also very affable, and asked particularly after my health and comfort.

SEPARATED IN THE GALE.

We then started on a southwest course. The captain kept his boat almost right before the wind; it was very difficult to keep from jibing, and as the whaleboat was the faster sailer it was hard to keep in position. Our orders were to keep astern of the captain, within easy hail, and for Chipp to bring up the rear, he being the second in command. The wind and sea increased very rapidly, and about 5 P. M. we were out of position, about nine hundred yards off the weather quarter of the first cutter. Melville asked me if we could get in position safely, and I told him that by jibing twice and lowering the sail we could do so. He then told me to take charge; so I jibed very carefully, ran down to the captain's wake, and then jibed her again, each time having lowered the sail and having gotten out two oars to keep up the headway before the sea while shifting the sail. I then had Seaman Leach put at the

helm, as he was the best helmsman in the boat. My eyes would not permit my taking the helm or I would have done so. We then ranged along the weather side of the first cutter, had our sail close reefed, and to keep from running away from her had to take it in, thereby allowing the seas to board us. About dusk the captain stood up in his boat and waved his hand — as if to signal us to separate — the men say; I did not see it. At the same time Chipp was said to be lowering his sail. Melville asked my advice, and I said we should steer with the wind and sea four points on the port quarter; that we could make good weather of it until dark, when we should heave to, on account of the liability to meet young ice in the darkness. In the meantime I advised that we should prepare a good drag. He told me to go ahead and do it. So I ordered Cole and Mansen to take three hickory tent poles, each about seven feet in length, lash them in a triangle, and lace a strong piece of cotton canvas across it, then take the boat's painter and make a span similar to the bellyband of a kite, and to the middle of this span make fast the luff-tackle fall. On the lower end of each tent pole there was a brass nib, which, with the weight of the wet canvas and the bight of the rope, would, I said, probably make the drag heavy enough; if not, we would send down the spare firepot and boat bucket to help it.

GETTING OUT THE DRAG.

The gale was now at its full force, and the seas were running high and spiteful. Leach was steering admirably, but we had to keep four balers going all the time to prevent the boat from filling and sinking. The drag having been completed I examined it and had it placed forward of the mast in readiness for use. I had the drag rope coiled down clear for running. The men were very weary.

There were only two seamen in the boat who could pull in a seaway, the others being inexperienced, except the helmsman. I had been watching the seas for a long time, and had noticed that they ran in threes and that there was a short lull after the third and heaviest one. I had the men detailed as follows:—Wilson and Mansen at the oars, keeping them peaked high above the sea, Cole at the hal-yards to lower sail, Aneguin and the steward to gather in the sail, Bartlett to launch the drag, and Leach at the helm. I gave preparatory orders very carefully—at the words “Lower away!” to put the helm hard a-starboard, lower sail, and give way with starboard oar, holding water with the port oar, if possible in the seaway. I watched more than five minutes for my chance, for our lives depended on the success of that movement. At the proper moment I shouted “Lower away!” and every man did his duty; the boat came round, gave a tremendous dive, and she was then safe, head to sea. We eased the oars and launched the drag. It watched about three points on the port bow, so I sent down the spare firepot and a bucket by putting loops, or what we call beackets, on the bails. Cole suggested sending down a painted bag with the mouth open. It filled with water, dragged, and was very effective. We then lay head to sea during the night. A number of the party turned in under the canvas. Melville was exhausted, and had his legs badly swollen, so he turned in abreast the foremast, leaving me in charge.

Leach and Wilson steered with a paddle during the night, and I sat at their feet watching. The upper gudgeon of the rudder had been carried away, so we took the rudder on board. Our fresh water had been ruined by the seas that had boarded us, but late on the night before leaving the island Newcomb had brought in several ptarmigan, which had been dressed and put in our kettle, the other tents not caring to take their share. This proved

excellent food for us the next day, as they were not too salt to be eaten. About 10 A. M., September 13th, I noticed that a new sea was making and the old sea was more abeam; from this I judged that the wind had veered to the southeast and would grow lighter. About 10 A. M. the water began to tumble in very badly on the port quarter, and the boat was down by the stern. We were thoroughly wet, and the sleeping-gear was so water-soaked and swollen that it jammed between the thwarts and could not be shifted in trimming. I rigged the Mackintosh on the port quarter, the stroke oarsman holding one corner and I the other for seven hours. This kept a great deal of water out of the boat, and acted like a "tarpaulin in the rigging" to keep her head to sea. At 4.40 P. M. per log, I called Melville, and told him that it was time to get under way. The sea was very heavy, but was falling, and by standing west at first we could gradually haul up to south-southwest as the sea went down.

ALONE ON THE WATER.

At daylight, I neglected to say, there were no boats in sight, when the gale was still raging. We got under way at 5 P. M. without getting a sea aboard, and stood to the westward, and by 8 P. M. were able to haul up to south-southwest, on which course we stood during the night. The second night was more comfortable, but still we were all very wet; but we were perfectly safe. I lay down for an hour abreast the foremast, while Melville relieved me, but could not sleep, and soon returned to my old place. At six o'clock on the morning of the 14th I gave orders to prepare breakfast, and a few minutes later we were surprised by the boat taking the ground in two feet of water. We backed off and I recommended standing to the eastward. I had reckoned that when we rounded to we were

about fifty miles off Barkin, our destination; that we had drifted at least fifteen miles to the southwest during the gale, and that we had run about twenty-five miles during the night, so that we were on the shoals north of Barkin. I said that if we stood to the west we would have no show, but that if we went east until deep water was reached, and then stood due south to the high land of the coast, we would find plenty of water and a good landing-place. Melville was of course in command, but he relied on my judgment, as he did in all emergencies.

THE STEERING.

After the gale and the separation of the boats, we had to steer by the sun or the moon. We had a pocket prismatic compass, that was useless in boat-navigation. It was useful on shore where it could be levelled, and where the needle could come to rest, but in the boat the needle would swing several points each way and a course could not be laid with any certainty. Fortunately it was a good time of the year for steering by the sun. On or about the 22d of September, the sun being at the equinox, it rises in the east and sets in the west for all places on the earth's surface, and its motion in azimuth or the change of bearing is about 15° per hour. I carried the watch and chart and at any given time of the day could tell the bearing of the sun approximately. From it I could tell the direction of the wind and also shape the course. While working to the eastward to get deep water, the wind was from south-southwest to south-southeast (true), and I judge that we made an east-southeast course (true), but it was impossible to tell accurately just what distance we made, because the current was such an uncertain element in the calculation. On the morning of the 15th September, we had nine fathoms, and after consultation concluded to steer

southwest, though I expressed the opinion that it was best to strike due south, in order to reach the high land on the coast, for I was always opposed to going to the Lena Delta. I then shaped a southwest course as agreed upon, steering by the sun during the day, and checking the course during the night by the moon, or by the north star, when visible.

OFF THE SIBERIAN COAST.

Bartlett thought he saw a low beach with logs upon it. I told him to take another good look, and then he said he thought he was mistaken. It was only a smooth patch of water among the shoals. We noticed that the water was only brackish, and that there was a thin skim of young ice near us. We stood to the eastward, occasionally feeling our way south, but always touched the ground quickly when moving in that direction. I noticed there was a very strong easterly set here. The winds were light and southerly; we stood all night about east-southeast, and early next morning got nine fathoms. I then recommended steering due south, but Melville wanted to go southwest because that was the captain's course, so I assented and shaped a southwest course, which we continued to steer until the morning of September 17th. The winds were very light, and we often had to pull the boat. I was at the coxswain's feet conning the boat. At daylight we got ten feet of water, and soon after saw a low beach. We made two attempts to land through the breakers, but could not get within a mile of the shore. The land trended north and south, and I said that we were evidently south of Barkin, and that if there was water enough we might fetch it that night from the southward, as we had a good breeze about east. With a view to finding the captain and Chipp we stood up the coast, hoping to reach Barkin before dark. The condition of the party on

this morning was very bad. Leach and Lauterbach were disabled with swollen legs, the skin having been broken in many places, and most of the others were badly off. We had been in the boat ninety-six hours, and wet all the time. I had taken the precaution twice during that time to pull off my moccasins, to wring out my stockings, and to rub my feet in order to restore circulation. I advised the others to do the same, but they unfortunately did not take the advice. I also beat the devil's tattoo almost all the time to keep up the circulation, so the next morning I was the best man in the party on my feet.

TRYING TO LAND.

After going to the northward about thirty minutes we saw two low points of swamp land, and it was evident that we were at the mouth of a swamp river. We had a talk, and I advised getting ashore as quickly as possible and drying our things out. So we entered this river with a leading wind, the current being very strong. We got as much as five fathoms in the middle of the river, but it shoaled very rapidly on either side of mid-channel. It was four or five miles wide, but we could not get within a mile of either beach. I advised standing up the river until noon, and then to decide fully what we should do. When that time arrived I said, "We are probably in a swamp river, either twenty or forty miles south of Barkin." The wind was east, and if we turned back we would have to beat out, but would have the current in our favor. After getting clear of the point we could run up the coast with a fair wind; "but," I added, "if a gale comes on we will be in the breakers." Melville then decided to turn back and start for Barkin. At this juncture Bartlett spoke up and said that he believed we were in the coast branch of the Lena. Melville referred to me and I said that it might be so, but that we should have

higher land on our port hand if that were the case. The trend of the river corresponded pretty well with the coast outlet, and if we could find an island about thirty miles up stream it would doubtless prove that we were in that place. Bartlett said that he believed such a vast body of water could not be a swamp river; it was bigger than the Mississippi at its mouth. I still held to my belief that it was a swamp river, but said that it would be a good place to try to make a landing before night.

ON LAND AT LAST.

So we stood up stream, and were fortunate enough to make a landing at 7 P. M., at what we found afterward the Tongus call an *orasso*, or summer hunting hut. We had been 108 hours in the boat since leaving Semmoffsky Island. The men immediately built a fire in the hut and gathered round it before they had restored circulation by exercise. I knocked about outside and carried up my sleeping-bag before supper, so my blood was in good circulation before I went near the fire. We had a cup of tea and a morsel of pemmican, having been on quarter rations since we separated. We went to sleep with our feet toward the fire, and several of the men passed the night in agony, as if millions of needles were piercing their limbs. Bartlett described it as the worst night he ever passed. I slept like a child, and was very much refreshed next morning. We found fish-bones, reindeer horns, and human footprints, also a curiously fashioned wooden reindeer with a boy mounted on his back. We were very much delighted with our prospects of meeting natives. Next morning we got under way about seven, steered up the river about two hours, and then could proceed no further. Bartlett started out to reconnoitre, but when he was a hundred yards distant I saw that he was limping. So I ran after him and

sent him back. I went half a mile and saw several swamplike rivers coming from the northwest, then went back to the boat and told Melville that he had better prepare tea while Mansen and I took a more extended scout. We went further and Mansen used his eyes for me. I could see some high land about two miles off, and I asked Mansen to look well if he could get over to it, for I was sure deep water lay alongside of it. He thought he could trace a passage to it, all but in one small place, so we returned with that information. The land was about ten feet high and covered with good deer moss. We saw many deer tracks, especially where they had come down to water at the river; we also saw another hut close by on a small flat. We then went back to Melville, and soon after started out with the boat. We had splendid luck; we struck a passage and reached the deep water. We passed an island, and I began to think that Bartlett was right. We proceeded at least thirty miles that afternoon, and at dark we reached a point about sixty feet high, where we expected the river to turn due south. Here we pitched the tents and passed the night. About four o'clock next morning Bartlett and I took a scout. We saw two large rivers to the northwest and a broad river coming from the south. We thought we were at the right turning-point, but were not sure. At six I called Melville and the others and ordered tea cooked. The wind was fresh from the west, and blowing right on the beach. We had breakfast, and then I took the well men and loaded the boat. We struck the tents at the last moment, and assisted Melville and Leach into the boat, close-reefed the sail and made every preparation for getting the boat off the lee-shore. After some difficulty we succeeded in doing this and ran close hauled on the starboard tack under close-reefed sail, standing about south-southwest under the lee of a mud flat. I was at the helm, and Bartlett on the bows with sounding-

pole. We saw seven reindeer among the hills, but did not stop to get at them. About eleven we saw two huts on the west bank, and in a good situation for landing, so I recommended that we should get ashore and dry out everything. It was Sunday, September 18th, and was the first real day of rest that we had taken for a long time. We found two very nice summer hunting dwellings, built with sloping sides and shaped like the frustrum of a pyramid, the sloping sides forming the cover for the occupants, and the aperture at the top being the chimney. This was what the Russians call a *Polatkah* and the Tongus an *orasoh*. The sun was bright and beautiful. We opened out everything to dry and passed a delightful Sunday, being sure that rescue was not far off. We also wrote a notice to the effect that the whaleboat had landed at this point, and stuck up a flag to mark the place of the record. There were lots of fish bones in the hut, some refuse fish, and a piece of black bread, all of which our Indian ate with avidity. There were also frames for nets and for drying fish. At 8 A. M. on Monday, September 19th, we got under way again, and stood up the river. I was at the helm and Bartlett on the bows, and the crew, divided in two watches of four each, taking two-hour tricks at the oars. Melville was in the stern sheets in command of the boat. We stood south for two hours with light wind and oars. All was going well, and we were in strong hopes of reaching a settlement marked on the chart before night; but we soon began to be headed off by mud flats and sand banks. About 1 A. M. we were more than a mile from the west bank, which we were following, because the village was marked as on that side.

MET BY THE NATIVES.

We then saw a point of land, and I proposed to go ashore to set up the prismatic compass and get some bear-

ings, as well as to prepare dinner. After two hours' work against a strong current we succeeded in reaching the shore, and the cook had set about getting fire when, to our surprise and delight, we saw three natives coming around the point in three dugout canoes and pulling with double paddles. We immediately manned our boat and went out to meet them, but they appeared shy and stood to the southward. We lay on our oars and held up some pemmican, and finally a handsome youth of about eighteen approached cautiously and took a piece. Then he called his two companions and they also came to us. We then induced them to go ashore with us to the old landing, where we built a fire and commenced preparing tea. One of the natives gave us a goose and a fish, all they had at the time. Their boats were very neat and well fitted with nets. I noticed that one of the strangers had a gray coat with a velvet collar, and when I pointed to it inquiringly he said, "Bouloungah." Then I pointed to his knife, or *bohaktah*, as he called it, and he also said "Bouloungah." From this I imagined that "Bouloungah" was the name of the place where they had obtained them. We had a very joyous time drinking tea and eating goose, for we felt that we were safe. The natives showed us all their hunting gear, and we showed them the compass, the watch, and our rifles, much to their delight.

THE "MIRACULOUS MEDAL."

After eating they crossed themselves, shook hands and said "*Pashee bah*." They also showed us their crosses, which they kissed, and I was very glad to have in my possession a certain talisman which had been sent to me by a Catholic friend at San Francisco, with the message that it had been blessed by the priest, and I would be sure to be safe if I wore it. I did not have much faith in this, how-

ever, but I showed it to the natives, and they kissed it devoutly.

It was the only article in the possession of the party, indeed, that indicated to the natives that we were Christians. You can imagine our feelings at meeting these people, for they were the first strangers whom we had seen for more than two years, and I never before felt so thankful to missionaries as I did on that day at finding that we were among Christian natives.

PART IV.

EXPERIENCE AMONG THE TUNGUSES AND THE YAKOUTS. — CONVERSATION WITH HERALD SPECIAL CORRESPONDENT.

I HAVE already told of our arrival at the Lena Delta and our meeting with the three natives, who, at first afraid of us, were finally induced to approach. We indicated to them that we wanted to sleep, making signs and resting the head upon the hand and snoring. They understood us, and took us around the point where we had hauled our boats upon the sand beach, and then climbed a hill, which was from sixty to seventy feet high. This was at the mouth of a small branch of the Lena, and we have since learned this to be on Cape Borchaya, said to be one hundred and forty versts, or about eighty-five miles northwest of Cape Bykoffsky. I know that these names will prove very confusing to you, as nearly all the charts mark this cape in different places of the delta. There we found four houses and several storehouses, all deserted but one, which was in very good condition. There was a graveyard near by, with many crosses. We all lodged in the one house. The natives were very kind to us; they hauled their nets and brought us fish, parts of which they roasted before the fire, giving us the most delicate morsels. Some of the fish we boiled, and altogether we had a very enjoyable meal. Then I noticed that Caranie, (one of the na-

tives), had gone away, leaving only the youth whom we called Tomat and the invalid whom we called Theodore. From Caranie's absence I argued that there must be other natives near by, and that Caranie had gone to inform them of our presence. Next morning, while the men were loading the boat, I took the compass and got some bearings of the sun for local time, direction of the wind, and general lay of the land. Previous to this I had interviewed Tomat, who drew a diagram on the sand showing the course of the river, and that the distance to Bulun was seven sleeps, which he indicated by snoring deeply when he pointed to each stopping place. To Bulun he appeared perfectly willing to go with us as pilot.

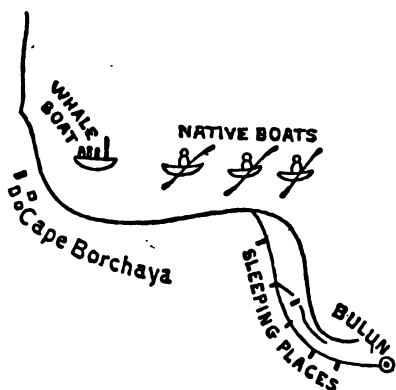
On my return Melville asked me to hurry up, as he wanted to get off. I was surprised and asked where the other native was. Melville replied that he had left, having refused to go with us. I then asked him to wait a few minutes while I ran back to the house in order to try and induce them to come. Returning I found the youth Tomat on the housetop, looking very sad and bewildered. When I asked him to accompany us he replied, mournfully, "Soak! Soak! Soak!" which meant, "No! No!" and then tried to explain something which I could not understand, saying, "Comahdar," which I afterward learned meant "father." I felt sorry for the youth, and gave him a colored silk handkerchief and one or two little things, and then went back to Melville. We then started out on our own hook and tried to work south (that is toward Bulun) among the mud flats; but in this we were not successful. At 5 P. M. we had a consultation, and I urged that we must decide at once whether to remain out all night or go back. I recommended going back and forcing the natives to go with us. We had two Remingtons and a shotgun, and I knew that it would be easy to carry our point. Bartlett had been sounding from the bow, so I

asked him if he knew the way back. He said yes, and we started to return. We did quite well until dark, but then the wind shifted and began to blow a gale. It was a very bad situation for a boat in such shallow water. We were fortunate enough, however, to get under the lee of a mud bank, where we secured the boat, with three tent poles driven into the mud, and our line fast to them. Thus we rode all night. It was very cold, and some of the men got their feet and legs badly frostbitten. During the snow squalls of the evening before I had to give the helm to Leach, because my glass would constantly get covered with snow, and I could not see. At daylight I got Bartlett and Wilson to stand up in the boat and take a good look at the land. Bartlett said he could not recognize it, but Wilson was sure it was the place where we had first met the natives. Bartlett said that if we could weather a certain mud flat we would have a fair way in, so we close reefed, I took the helm and worked to windward of the mud flat. Then we ran in with a leading wind and landed. Newcomb shot some sea-gulls, and we breakfasted on them, in order to save our few remaining pounds of pemmican. Wilson insisted that in less than half an hour he could go to the house where we had slept the night before. Most of us laughed at him, but I told him and Mansen to go and see, while I sent two men to reconnoitre in an opposite direction. Wilson and Mansen came back very soon. We were rejoiced to learn that they had seen the house. We immediately recalled our scouts and embarked, rounded the point, and were received at the old place by the natives in the most cordial manner. They were headed by another native, an old man, who took off his cap, and said, "Drasti! Drasti!" at the same time shaking hands. He immediately took possession of Melville, who was very lame, and helped him up to the house. We unloaded the boat and carried up the sleeping-

gear. When the natives saw a couple of gulls that we were expecting to feed on, they threw them down in disgust, and immediately brought deer meat to replace them. Vashiley, for that was the old man's name, proved to be our great friend; he willingly consented to pilot us to Bulun and measured the boat's draught, thus showing that he was wide-awake and knew what he was about. Thus old Tungus Vashiley, or Vashiley Koolgiyork or "Cut-eared Vashiley," in his style and bearing always reminded me of the late Commodore Foxhall A. Parker. He was always dignified and kindly and had a certain refinement of manner that was very remarkable.

CUT-EARED VASHILEY.

We saw at once that Vashiley was the man whom Caranie had gone to bring to us, and that was why the youth would not go with us until his father had arrived. I got



Vashiley to draw a chart of the route we should take, and the above is a copy of it, with the way in which he proposed to pilot us and the points at which we should sleep.

IN A TUNGUS VILLAGE.

We took a good rest, and were all ready to start next morning with Vashiley. Bartlett and myself asked to go ahead in order to send succor from Bulun, and also to spread the news about the two other boats; but Melville preferred that we should all keep together, for he probably did not feel that we were out of the scrape ourselves yet. On Wednesday morning, September 21st, Vashiley, with two other natives, started with us, and pursued the same course that we had done on the previous forenoon, to the southward and eastward among the mud flats. He went ahead, and had his two men on the flanks constantly sounding with their paddles. Their boats, or viatkies, are about fifteen feet in length and twenty inches beam, modelled very much like a paper raceboat, and provided with a double paddle. The native faces the bow, pulling alternately with the right and left hand, the fulcrum of the lever being an imaginary point between the two hands. It is a very graceful and fascinating movement, and the natives make their boats skim along very rapidly, sounding at each stroke when going in shoal water. Vashiley found a channel among the mud flats for our boat, which at this time drew about twenty-six inches. We worked all day to the southward and eastward, and about eight o'clock P. M. hauled out upon a flat beach and camped for the night, Vashiley giving us fish for supper. The weather was very cold and raw, with a strong breeze blowing, and our pilot was very anxious about the state of the river, fearing that we would be stopped by young ice at any moment. The next morning the banks were fringed with young ice, but this we broke our way through and continued our course up the river. After the sun came out the ice melted, and we worked all day through a labyrinth of small streams, passing several hunting lodges. At

night we slept in two houses on shore, and next morning we entered a large body of water, which we thought was the main river. About noon we reached a point of land on which there was a deserted village of about six well-built houses and a number of storehouses. Vashiley took us to a house and told us to cooshay or eat. I noticed that one of the natives went away in his canoe. I then took a look at the village. The houses were in good repair, and there were numerous cooking utensils in them, and troughs for feeding the dogs. The doors were not locked but those of the storehouses were well secured with heavy iron padlocks of peculiar shape. Things looked more promising now, and I felt sure that the winter occupants of these houses could not be far off. During this resting spell I examined Leach's and Lauterbach's feet and limbs. Leach's toes had turned black and Lauterbach's legs were in a fearful condition, being greatly swollen and having large patches of skin broken. We dressed them as well as we could with some pain extractor that I happened to have along, and when that gave out we used grease from the boat box. In about an hour a boat appeared in sight, and a number of people disembarked and entered a house near us.

SPIRIDON.

A few minutes later Vashiley came and asked Melville and me to go with him. He conducted us to the house, where we shook hands with an old native named Spiridon, who had two very hard-looking women with him, each of whom had lost the left eye. They served tea to us, however, in china cups; also gave us some reindeer tallow, which they considered a great delicacy. Spiridon looked to me like a regular old pirate, and there was an air of mystery about the place that made me tell Melville I thought Spiridon was an old rascal and that I was afraid

to trust him. He gave us a large goose, however, that was dressed and stuffed with seven other geese, all boned, and this he said we must not eat until sleeping time on the following day. He also said that we would leave next morning. Newcomb had seen a number of ptarmigan flying about the deserted houses, and had bagged a few of these beautiful birds, which were in their white winter plumage, feathered from beak to toe. Then we started with a new pilot (Capucan), a young man who lived with Spiridon. Old Vashiley was quite exhausted, and he showed us his left elbow, where he had a severe gunshot wound, not yet healed. Caranie and Theodore still accompanied us, and the former proved to be a better pilot than Capucan. We worked very hard that day until 8 P. M., the men pulling all the time in one-hour tricks. I had the helm and Bartlett the sounding-pole. We camped for the night in a palotkah, and when we got under way again next morning, only four of us were able to load the boat and get her off the beach.

A SUFFERING CREW.

During the previous three days Leach and Lauterbach had been working manfully at the oars whenever their turn came, although their limbs were in such a condition that they could not stand, and had to be assisted to and from the boat. Melville and Bartlett were in a similar condition, and this was the first day that Bartlett was not able to be one of the leading men in the work. We got under way that morning, and about noon reached the village of Geemovialocke, which we afterward found to be on Cape Bykoffsky, where we were received cordially by about twelve men, women, and children. Melville and I were taken to the house of a certain Shagra Nicolai, who was the chief.

YAPHEME KOPELLOFF THE EXILE.

A few minutes later in dashed a slight young man whom we at once saw was a Russian, and I thought he was a Cossack. His name was Yapheme Kopelloff, a Russian exile who lived in this village, and he proved very useful to us later on. At this time he could say "Bravo!" which he thought meant good, and that was the only word we had in common, but in less than two weeks he taught me so much Russian that I could make myself fully understood to him in a mixture of Russian and Tungus. We stayed at Nicolai's all night, and his wife gave us a fish supper, which we enjoyed heartily. We described as well as we could that three boats had been dispersed in a gale and that we did not know where the other two boats were: also that we wanted to go to Bulun, which place he told us was fifteen days off.

UNFORTUNATE DELAY.

I need now to give some explanation why we were at Cape Bykoffsky, so far out of our course to Bulun. Old Vashiley, we understood at the time, was bound first of all to deliver us to the care of his chief, Nicolai Shagra, and with him we eventually found ourselves.

CORRESPONDENT. — "Why did they not take you to Bulun, as they promised?"

That matter is not very clear, even to me. It was a very unfortunate time in the season. Young ice was making during the night and breaking up and thawing during the day. It was the transition period between navigation and sledding. Nicolai Shagra told us it would take fifteen days to reach Bulun, but I think that he meant that a delay of fifteen days would be necessary before we started — that is, to await the freezing of the river. The next morning it was stormy, and he told us that we could not

go, but about nine o'clock he came in and began to rush us off, as if he really intended to send us to Bulun. He put sixty fish in our boat and made signs for us to hurry up and embark. We did so, and he, with three others, went ahead to pilot us through the mud flats. Yapheme was in the boat with us. We worked up the river for about two hours, constantly getting aground, and, in the teeth of a fresh breeze, were making very slow progress. Before the village was out of sight, however, the pilots turned round and waved us back. We up helm and went back to the village, where they had a sled ready to carry Melville back to the house. About four of us secured the boat, but Nicolai insisted on hauling her up, for he made signs that she would be smashed by the young ice if we did not do so. The natives then assisted us, and we hauled her high and dry up on the beach. The condition of the men that day was such that I was not sorry that we had turned back, because they were not up to a fifteen days' journey as represented by the natives. We were then taken to the house of a certain Gabrillo Pashin, where we remained all night. Next morning Yapheme and Gabrillo came to me and made signs that they wished me to go with them.

LODGED IN A HOUSE — A SICK COMPANY.

They took me to an empty house at the end of the village, where I found some old women engaged in cleaning up. They indicated that they wished us to occupy it, so I had it cleaned out and moved the whole party into it about noon. Melville mustered the party and told them that he and I were afraid that scurvy had appeared among us, that we must keep the house and ourselves very clean, keep cheerful, and we could probably get along very well until proper food arrived. He also told them that I should take charge of everything during his sickness. The next

morning all hands except Jack Cole, the Indian, and myself, were in a very bad condition, and we were the only persons who were able to get wood and water. Wilson was able to hobble about the house and prepare the fish, of which we were given eight per day, four in the morning and four in the evening. Yapheme lived with us ; so that made twelve men with four fish, weighing about ten pounds, for breakfast and the same amount for supper. We had no salt, but we had a little tea left. After a few days the natives gave us some decayed wild geese for a midday meal ; they were " pretty high," as an Englishman would call them, but we managed to stomach them, for we were capable of eating almost anything. Yapheme also gave us some goose eggs.

GETTING STRONGER.

Thus we lived for about a week. Then came a *prasník*, or native feast-day, during which Yapheme took some of us out to make calls, when the natives presented us with fifteen other geese of a similar high character as the others. But our party improved in condition day by day ; one by one reported himself as fit for duty, and in about a week's time Melville, too, was well enough to reassume charge informally. The natives were generous to us. I am not sure what their resources in fish were at the time ; but I know they were not catching too many. One day I hauled the nets with Andruski Burgowansky ; we drew seven nets and got only eleven *balook*, a splendid fish, one of which he gave me as a present. There was a little deer meat in the village at the time, but we were unable to get any.

A HOSPITABLE RUSSIAN — NEWS.

One day we were surprised by the arrival of a Russian at the village. I have forgotten to tell you that the night

after we got back the young ice formed on the river, and that sledding commenced in our vicinity about a week later. This Russian was brought to our house, and I acted as interpreter as well as I could. Learning that he lived only nine or ten versts away, I asked him to take me home with him, as I wished to talk with him about our future movements, and to learn the best route for getting to Bulun. To this he willingly consented, and at two in the afternoon we drove over to his house. With him and his wife, a Yakut woman, I spent the evening, and here I learned some news from the great world from which we had been so long absent. He told me that the Czar had been assassinated, that the steamer *Lena* was still in the river, that *Sibiriakoff* was running some steamboats, and also that Austria and Prussia had been at war. He spoke of Count Bismarck, of Generals *Skobeloff* and *Gourko* and the Turkish war, and of a great many other things besides. His wife presented me with some tobacco, about five pounds of salt, a small bag of rye flour, some sugar and two bricks of tea. And here let me say that the native women were always very kind in spite of their ugliness, and I would like to send up a large load of gay calicoes, bandannas and other fineries for them if I could. Next morning *Koosmah Gerymahoff* — for that was the name of this Russian exile — took me to the door and showed me a fine little reindeer which he had bought for us, and asked if it suited me. I told him it would be very welcome, and so it was immediately slaughtered. We had tea for breakfast, with fish and fish pâtés which the good woman had made specially for me, and just before I left *Koosmah* proposed that on the following Sunday he would take me to Bulun with deer teams. I asked him who else would go, and he said two other Russians. I asked how many Tungus, and he said there would be none, because they were bad; and on all occasions he tried to indicate that there was some-

thing wrong with the Tungus. I asked him to come over the following Wednesday to consult with Melville, and then I returned home with the provender. Our people were delighted with the change of diet. The deer, when dressed, weighed ninety-three pounds.

On Wednesday Koosmah came over as he had promised. We took him down to the boat, and had it turned over for his inspection. We then retired to an empty house, where Melville, Koosmah and I had a consultation. Koosmah said he could go to Bulun and return in five days. When asked if he could go quicker with or without me or Melville he indicated that it made no difference. Melville decided that Koosmah had better go alone; Koosmah acquiesced, but on the following Friday we were surprised to learn that he was going to take Nicolai Shagra with him. I have not mentioned that the second day after our return to the village, Nicolai came to us and wanted a written paper from us, which he promised to forward to Bulun at the earliest opportunity. I wrote a paper in English and French, which Wilson put into Swedish, and Lauterbach into German, and all four versions of this document, together with a picture of the ship, and a drawing of the American flag, were sewed up in oilskin and given to Nicolai, who handed them to his wife, and that good woman put them in her cupboard for safekeeping. They were never forwarded. Subsequently Melville and I prepared despatches for the Minister at St. Petersburg, for the Secretary of the Navy, and for Mr. James Gordon Bennett, but Melville sent nothing by Koosmah.

MY FIRST SEARCH.

The next morning I told Melville that before Koosmah left he should be particularly enjoined to spread the news of the two missing boats among the natives everywhere he

went, and I said I would like to run over to his house to give him those orders. Melville consented. I went down to Nicolai Shagra's to get a dog team, and while there Spiridon hove in sight with a fine team of nine dogs. I immediately took possession of him and his team and drove over to Koosmah's house, where I had a long interview, during which I went over the charts with him again. On this occasion he told me positively that Barkin was only fifty versts northeast of his house, and I immediately determined to go there to seek for traces of the missing boats. I went back to Melville and told him what I wanted to do. He did not assent to the proposal at first, but finally agreed. While at Koosmah's I wrote a line to my brother in Washington, and gave it to Koosmah to mail at Bulun. My eye would not permit writing much. I took my rifle and sleeping bag, put them on Spiridon's sled, and pointed toward his village. He seemed very much astonished, but finally obeyed, and started homeward. In reaching his house I had a consultation with him and Caranie, and tried to get them to consent to take me to Barkin next morning. But they said that the "boosbyral" — that is, posh-ice — would prevent them from going, and that it was impossible to go there at that time of the year. We then had supper, after which I hunted up old Cut-eared Vashiley, and he consented to take me to Kahoomah, which Capucan said was to the northwest of us. If I could not go to Barkin I was glad at any rate to go to the northwest to search in that quarter and to spread the news. The next morning Vashiley, Capucan, and I started with twelve dogs for Kahoomah. We first went down a little river to the southeast, and the young ice broke in many places, letting the dogs and sled into the shallow water. I was surprised at the southeast course, for Capucan had told me that Kahoomah was to the northwest. After thinking a few moments I concluded that Kahoomah

must be the Tungus name for Koosmah, and that surmise proved to be correct. They took me back to Koosmah's house, where they had another talk, and then agreed to try to take me to Barkin. I set up the compass and Koosmah pointed to the northeast, saying, that Barkin was only fifty versts distant in that direction, but that we would have to go first to the southeast and then swing round to the northward. We had to wait all night for another sled from our village. It came next morning, and then we started to the southeast. About eleven o'clock we came to a big river running north, and I noticed that old Vashiley looked up the stream very anxiously and thoughtfully. I set up the compass, and when the needle came to rest the natives sung out with delight and surprise, "Tahrahoo," and pointed toward the south end of the needle. I insisted, however, on going north, but the old man said it was impossible, on account of "boosbyral" or posh-ice. I then decided to let him follow his intentions and see what they were. About 4 P. M., after having travelled over a region covered with driftwood, we reached a small hut situated near a bold headland, and the island that they called Tahrahoo was about two miles off shore. They said they would take me there the next morning. At this time another sled hove in sight; it was driven by an old man named Dimitrius, who had been sent after us by Koosmah, with a kettle and a teapot for me. Vashiley and I went upon the hill about sunset and had a good view of the river and the adjacent island. He indicated that the steamer Lena had entered there, and that there might be some signs of boats on the adjacent islands, but I told them that I wanted to go round the headland and to the northward. But both old men insisted that this would be impossible. The next morning, to satisfy me, they started toward the island, the two old men and myself going in advance, to test the young ice. About

a mile off shore the ice was black and treacherous, and so unsafe that the old men refused to go any further, So we had to turn back and return from a fruitless search. It demonstrated, however, that what the natives said was true, — that the ice was not strong enough for travelling. The second night we slept at Koosmah's, and then returned to Geemovialocke.

NOROS AND NINDEMANN.

At the end of five days Koosmah had not returned, and it was not until October 29th that he put in an appearance, after an absence of thirteen days. On his way back at Kumak Surka, he had, however, met with the two men of the captain's party, Noros and Nindemann, who had written a brief statement about the condition of the captain's party. They gave it to Koosmah, and he hastened to bring it to us. He told us that the men were to have reached Bulun the previous day, (October 28th), so Melville immediately started with old Vashiley and dog teams to find the men and learn the position of the captain's party, and carry food to them. He gave me orders, which he afterward put in writing, to take charge of the party and get it to Bulun as soon as possible. On November 1st the Bulun commandant, a Cossack, named Gregory Mikctereff Baishoff, came to us with a good supply of bread, deer meat, and tea. He handed me a long document addressed to the American minister at St. Petersburg, and signed by Noros and Nindemann. It contained some details of the captain's position, but was not definite enough to allow me to start immediately to their relief. Besides, I knew that Kumak Surka was nearer to Bulun than to us, and that Melville, after seeing the men, could get to the captain much quicker than we could, so I immediately despatched the document to Melville by

special courier James H. Bartlett, fireman, who was the best man of the party at that time. The commandant at the same time had the foresight to appoint a rendezvous at which he and I should meet Melville on his way north. He also sent a letter to a subordinate, ordering him to equip Melville for the journey.

DEALING WITH THE COSSACKS.

This man was a non-commissioned officer of Cossacks, and he acted with great intelligence and good judgment. He was a tall, fine-looking man, with black side whiskers, forty-two years of age. Bartlett started that night with a deer team, and was likely to get to Bulun only a few hours after Melville, because the latter had taken the dog road, which was two hundred and forty versts long, while the deer road was only eighty versts across country. The commandant had come by the deer road, thus missing Melville. I told the commandant that he must get us to Bulun as soon as possible, but he was rather non-committal, and would not state a definite time for starting. That night I slept uneasily, and was awake by four o'clock next morning. Yapheme was up, and I asked him where he was going. He said that he was going with the commandant to Arrhue, the village where Spiridon and Vashiley lived. I told him to tell the commandant to come to me immediately. I thought I would try a high-handed game with this Cossack commandant, and it worked admirably. He came to me about 5 A. M. in uniform, and I told him that if he did not get us clothed and started by daylight next morning that I would report him to General Tcherniaeff and have him punished, but that if he did well and got us ready he would be handsomely rewarded. He accepted the situation gravely, and said "Korahshow," which meant "all right." I invited him to sleep with us

the next night, and the next morning at daylight fourteen dog teams, with about two hundred dogs, were assembled at our village, and the natives brought us an ample supply of skin clothing. This was Thursday, November 3d.

MEETING WITH MELVILLE.

We started for Bulun, and on Saturday met Melville at Kumak Surka Serai, which is the first deer station. I had a long consultation with him, and he told me that there was no possible hope for the captain's party, but that he and the two natives were going to the spot where Noros and Nindemann had left him, and also to the Arctic Ocean to look for relics. He told me, further, that he had left written orders at Bulun for me to proceed to Yakutsk with the whole party. I will here state that his orders to me were given by virtue of a written order from Captain De Long, which placed him in command of my boat, and all persons embarked in the boat were made subject to Melville's orders and directions. This I knew to be unlawful, but, as the captain was the highest naval authority at the time, I had nothing to do but to obey. And so I had accepted duty under Melville from the time of the separation, because I considered that it was my duty, under the circumstances, to do so. We arrived at Bulun on Sunday, and the commandant informed me that we must remain until the following Saturday. I found written orders from Melville, telling me to proceed to Yakutsk with the whole party as soon as possible, and there await his arrival. But he told me verbally at Kumak Surka Serai to leave Bartlett at Bulun. As transportation further south could be provided for only six of the party, I took the five weakest men and started for Verchoiansk, leaving the other six to follow when Melville should return. I left written orders with Bartlett that in case

Melville did not return before November 20th, to start a search party out for him. The resources of Bulun were very limited, it being only a village of about twenty houses, and our presence there making fearful inroads on their winter stock. We travelled by deer sled to Verchoiansk, a distance of nine hundred versts. Thence to Yakutsk, by means of deer, oxen, and horses, a distance of nine hundred and sixty versts, reaching the latter place December 17th, 1881, where we were well taken care of by General Tchernaiëff, the Governor.

AT YAKUTSK.

About December 30th Melville arrived at Yakutsk, and a few days later the other six men came on.

CORRESPONDENT. — "In what condition were the men then?"

The most of us were in good condition, but my left eye was completely disabled and the right one was suffering by sympathy. One man was insane, and had to be kept under restraint, and Leach was disabled slightly with frozen feet. The others were all well.

CORRESPONDENT. — "And why were these men not taken for the winter search?"

Most of them would have been worse than useless, because they could not make themselves understood, and would have to have been waited on by the natives. You have no idea how useless the average white man is under such circumstances; he is not able to look out for himself, letting alone looking out for other people. White men cannot stand the extreme of cold of that region and do much manual labor.

CORRESPONDENT. — "When did Melville leave Yakutsk?"
On January the 27th.

CORRESPONDENT. — "Then he was thirty days there?"
Yes, preparing for the spring work.

CORRESPONDENT. — “ Whom did he take with him?”

Bartlett and Nindemann — Nindemann, because he was one of the men who had last seen the captain; and Bartlett, because he had picked up a little Russian and could get along first-rate with the natives.

At Yakutsk Melville received the first despatch from the Secretary of the Navy, which ordered him to send the sick and frozen to a milder climate. So he ordered me to proceed with the whole party to Irkoutsk and thence to the Atlantic seaboard. On arriving here I got despatches from the department ordering me to remain and continue the search. After the long excitement of our life in the north my eyes began to trouble me more and more, and having got cold in them during the sledge journey from Yakutsk to Irkoutsk, I was compelled to seek professional advice. The two oculists whom I consulted told me that my left eye was ruined and should be taken out to prevent the right one from being constantly affected; that I should not read or write, and should not leave here until the right eye was in a better condition. The reports of the oculists about my right eye were at first very encouraging, and that was why I proposed to the department to charter the steamer *Lena*, in order to make a spring search for Chipp. I also asked for two officers to be sent to assist, thinking that if my right eye broke down there would then be somebody here to take my place.

THE CAPTAIN'S PARTY.

CORRESPONDENT. — “ What do you think of the fate of the captain's party?”

Melville told me every detail of his trip of twenty-three days from Bulun. He says he has traced the captain's party as far as a summer hunting station called Sisteranek, on the west bank of the *Lena*, and that the party must be

somewhere between that station and Bulkur, neither of which places is marked on the ordinary maps.

CORRESPONDENT. — “ Do you think they are alive? ”

No ; they had been two days without food when Noros and Nindemann left them, and the region is almost devoid of game and inhabitants. The men had insufficient clothing, and there is no reasonable hope.

CORRESPONDENT. — “ And Chipp? ”

I think his boat swamped during the gale, for she nearly did so on a previous occasion, and was a very bad sea boat. If he succeeded in reaching the coast, he had less food than the other boats, and his chances of life were therefore worse than the captain's party. If his boat swamped she would probably come to the surface, after the bodies floated out ; she had not sufficient weight in her to keep her down. The specific gravity of pemmican is nearly that of water, and we found that some of the canisters, which probably contained air space, would actually float. The sleeping-bags, when water-soaked, would be the heaviest weight in the boat, and these were probably thrown overboard in the gale. The northeast winds continued two days after the gale, and Chipp's boat may have drifted ashore near the mouth of the Olaneck, if not carried to the northeast like the driftwood seems to be — that is, to the New Siberian Islands.

PART V.

ARRIVAL AT IRKOUTSK. REWARDS TO NATIVES.

WE arrived at Irkoutsk on Sunday, Jan. 28th, 1882. The party consisted of myself and the following: Raymond L. Newcomb, naturalist and taxidermist; John Coles, boatswain; Herbert W. Leach, seaman; Henry Wilson, seaman; L. P. Norris, seaman; Frank E. Mansen, seaman; John Lauterbach, coal-heaver; Charles Tong Sing, cabin steward; and the Indian Aneguin, hunter and dog-driver. We also had a Cossack of the Yakoutsik regiment detailed as special attendant for John Coles. On our arrival I received a despatch ordering me to remain and continue the search. It was from the Secretary of the Navy and sent through the Legation at St. Petersburg. I immediately asked to charter a steamer, and search the coast from the River Olenek to the Kolymah for traces of Lieutenant Chipp and party, and asked that two officers be sent out to assist me. I made the proposition to the men also, and they expressed a willingness to go back with me for the spring and summer search. Mr. James Gordon Bennett was at Paris, and I communicated the proposition to him. He expressed himself very favorable to it, but the next day he telegraphed that he had reconsidered the matter, and thought it was not right for me to risk losing my sight entirely by going again, and that he would urge upon the government to order me home, and to bring the invalids with me. A day or two afterwards orders came from the secretary, stating that, in consequence of the con-

dition of my health, the orders to remain and continue the search were revoked, and that I should return to the United States, bringing the invalids with me.

After considerable delay at Irkoutsk, occasioned by the condition of my eyes, I started on the home journey with R. L. Newcomb, John Coles, and Charles Tong Sing. We arrived at New York safely about June 1st, 1882.

In conclusion it may be interesting to state what rewards were made to the natives who rescued us, and from whose hands we received so much kindness.

Mr. John P. Jackson, the special correspondent, started from Irkoutsk, March 12th, for the Delta region, and he kindly took charge of some presents for the Bulun commandant, old Vashiley, and a few others. These were sent by me. I also suggested to Mr. Bennett that presents should be purchased and sent to Melville, in order to make sure that the right people should get them.

Mr. Bennett told me to make arrangements with Lieutenant Harber on his way out. Mr. Harber arrived at Nischneudinsk, March 21st, and we had two days' consultation, during which I turned over all the principal facts relating to Lieutenant Chipp in writing, and requested Harber to invest the sum of five hundred roubles in presents for the natives. I furnished him with a list of articles to be purchased and the persons to whom they were to be given. Also requested him to see Mr. Melville and confer with him before giving the presents.

Mr. Harber made the necessary purchases at Irkoutsk, and I deposited five hundred roubles in the Banque D'Escompte, St. Petersburg, subject to his order, and charged the same to the account of Mr. Bennett.

While at Irkoutsk, the acting General Governor submitted the report of Mr. Corsoroffsky, the Ispravnik of Verchoiansk, and requested my opinion in writing. I sent him the following letter:—

A REPORT TO GOVERNOR GENERAL.

IRKOUTSK, Feb. 27th, 1882.

TO HIS EXCELLENCY GOVERNOR PEDOCHENKO:

SIR, — I have the honor to return herewith the enclosed report of the Ispravnik of Verchoiansk relating to the work of his aide, Mr. Ipatieff, in carrying assistance to our party and in gathering information about us since our arrival on Russian territory. As you have invited my attention to this report and have requested my opinion relative to the merits of the people who helped us, I would respectfully submit the following statements: —

First, The man named Vashiley Bobrofsky rendered the most important services. He is known among the natives and by me as Wasili Coolgiyork, which means cut-eared Wasili. This man may be identified by a gunshot wound near the left elbow. The moment we met him we felt safe, for he gave us food and immediately consented to pilot us to Bulun, at the same time measuring how much water the boat required, and thereby showing that he knew what he was about. He took us to Nicolai Diakonoff, whom we understood to be his superior. At a subsequent time he brought us fish and took me on a journey to the mouth of the river in search of the two missing boats, and also took Mr. Melville on his journey to Bulun. He was always kind and good to us, and it is not only my opinion but also that of the others that we owe more gratitude to him than to any one else.

Second, The exile Koosmah Gerymahoff I will recommend as second in the order of merit. He found us accidentally and agreed to take me to his house, where he gave me more than one half of his small stock of provisions, and volunteered to carry me to Bulun on the following Sunday. I told him to come over to us in three days to

consult with Mr. Melville. He came, and Mr. Melville decided that Koosmah should go without me. He went to Bulun, and on his way back he met at Kumah Surka the two sailors from the captain's party, and brought us the first intelligence of them. Before his first visit the natives gave us scarcely enough food, being only eight fish per day, and some decayed geese. He gave us salt, flour, tobacco in small quantities, and also bought a deer, which he gave me on my first visit to carry back to the men. He threatened the natives and made them bring us more fish than we could eat. He lived only ten versts from us, and said that Nicolai Diakonoff should have informed him of our presence, and he could have taken us to Bulun before the river froze over. Koosmah Gerymahoff acted boldly and well. He is more or less dependent on the natives, but was not afraid to threaten them, by which he made them give us enough food.

Third, I will call attention to the prompt and intelligent action of the commandant Gregory Mikatereff Baisshoff at Bulun. He sent word by Koosmah that he would come to us on a certain day. He arrived at the fixed time and with an ample supply of provisions. He brought with him a long document that had been addressed by the two sailors of the captain's party to the American Minister at St. Petersburg. The two sailors could not make themselves understood, so the commandant brought the paper to us. I immediately despatched it by courier to Mr. Melville, who was then on his way to Bulun. He, going by the dog road, had missed seeing the commandant, who came by the deer road. The latter had the foresight to send by the same courier a written order to his subordinate to equip Mr. Melville, and also appointed Kumah Surka as a rendezvous. The commandant arrived at our village about noon, Nov. 1st, 1881. I told him that he must get us equipped and started for Bulun by day-

light, November 3d. That if he did not do so, I would report him to General Tcherniaieff and have him punished, but that if he did well he would be handsomely rewarded. I made signs that he would receive decorations. He accepted the situation calmly and went to work. In less than forty-eight hours, and at the time specified, he had collected nearly two hundred dogs, skin clothing for all the party, and all necessary outfit. We started on the morning of November 3d, under his care and guidance, and arrived safely at Bulun, November 6th, having met Mr. Melville at Kumah Surka, where the commandant made arrangements for Mr. Melville's sled trip to the Arctic Ocean. At all subsequent times the commandant at Bulun provided for us in a very practical and efficient manner, and I do not hesitate to say that he is the most intelligent and best balanced man that I met north of Yakutsk. His position being a very subordinate one, it required great force of character and good judgment in controlling the natives and getting from them everything that we needed without an equivalent. His task was a difficult one, and he did admirably.

Fourth, The two men, Iwan Androshoff and Constantin Mohoploff are deserving of high reward for the rescue of the two sailors at Bulkur.

Fifth, The exile, Yapheme Kopeloff, lived in our house and rendered us important services. Before I left the village I had him and all the natives render their accounts of all food furnished. Mr. Melville was not aware of this when he made his statement at Verhoiansk. Yapheme was a very good man, and we, one and all, would be very glad to see him rewarded.

Sixth, In regard to the three fishermen whom we first met I would state that they attempted to run away because they were afraid of us. We induced the youth, whom we called Tomat, to approach, offered him something to eat,

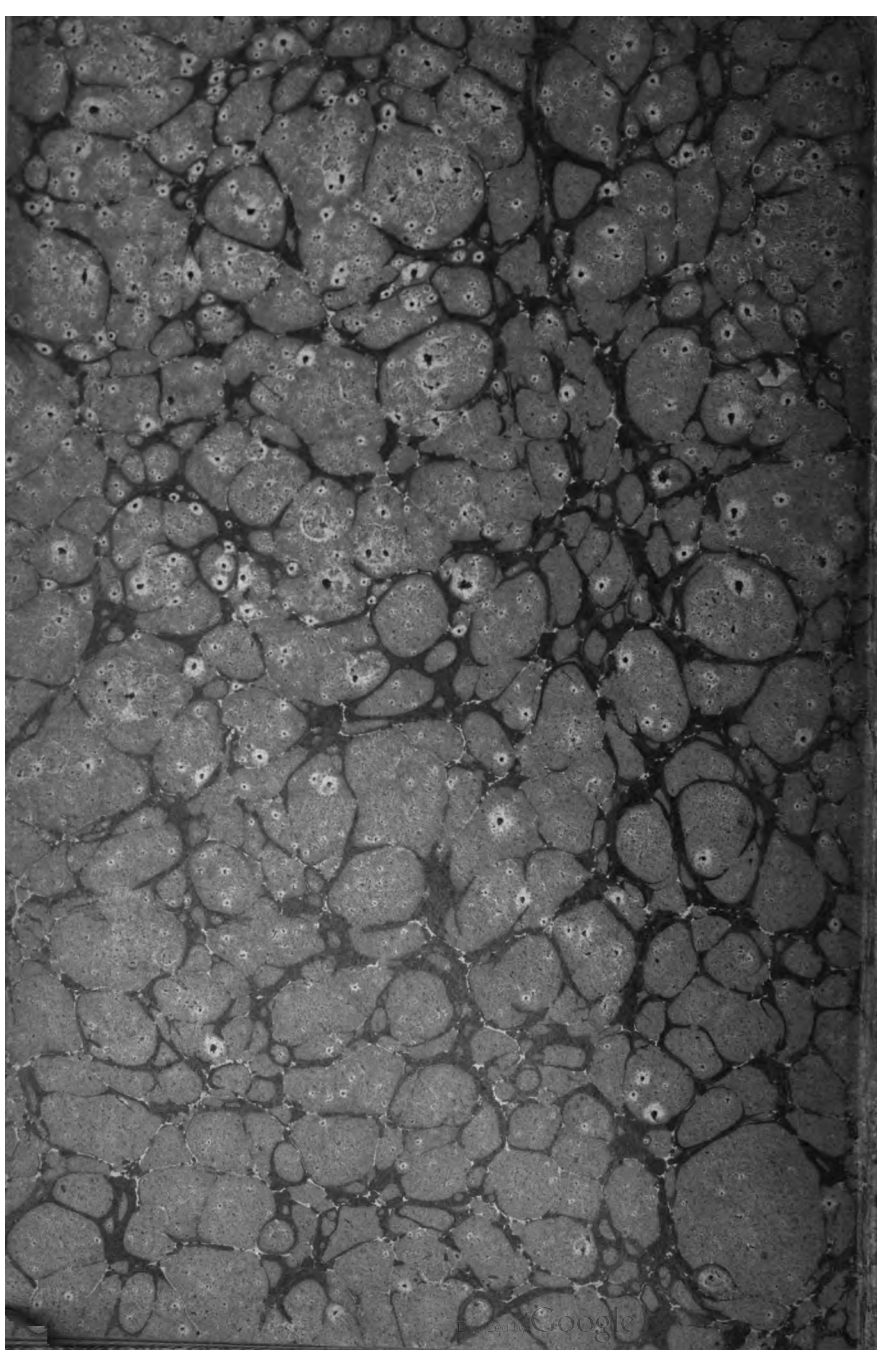
and then the other two approached. They gave us a goose and one fish—all they had at the time. They took us to a hut, where we passed the night. The next morning they would not go with us, but seemed very much agitated and sorry to have us go alone. We could not understand them at the time, but afterward learned they had sent for old Wasili and wanted us to wait. Mr. Melville decided to go without them; so we started about 7 A. M. and tried to work to the southward among the mud flats. After a very laborious day and a very stormy night we were forced to return, and were fortunate in finding the old place, where we were met by old Vashiley in the most cordial and friendly manner. From that time, we were comparatively well cared for. The three fishermen, as well as the assistants of Ivan Androssoff, in my opinion, should be suitably rewarded through their chiefs. The report of Mr. Ipatieff is correct in the main, but it contains many inaccurate statements, upon which, however, it is not necessary to dwell at present. The natives who found the three important records of the captain and the gun should be suitably rewarded. Those documents were not found by Mr. Melville. I do not know the names of the natives, never having seen them. In conclusion I would respectfully state that we received good treatment from the authorities at Verhoiansk, and that we are especially indebted to Major-General G. Tcherniaieff for the kind and fatherly treatment we received at his hands. The moment he was informed of our presence in Siberia he adopted the most prompt and efficient means of relief, and I am safe in saying that we all regard him as our best friend in Siberia.

I have the honor to remain, &c.,

JOHN W. DANENHOWER,

Lieutenant United States Navy.

*"Never give up! there are chances and changes
Helping the hopeful a hundred to one,
And through the chaos High Wisdom arranges
Ever success,—if you'll only hope on.
Never give up! for the wisest is boldest,
Knowing that Providence mingles the cup;
And of all maxims the best, as the oldest,
Is the true watchword of, Never give up!"*



DEC 20 1882
MAR 27 1883

DEC 15 1883

MAY 16 1884

NOV 10 1884
DEC 14 1884

MAR 9 1887

DEC 7 1891

FEB 24 1894

~~JUL 27 '59 H~~

